VIDE-V24145

Service Manual

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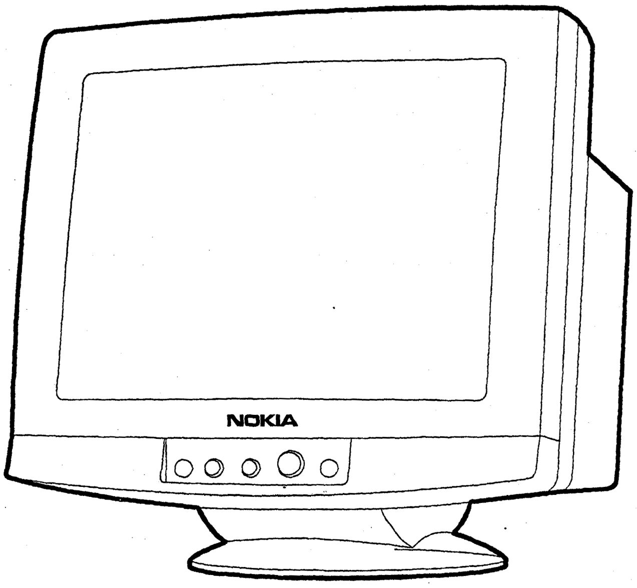
Chassis 445T 445 X Pro

21" High Resolution color Monitor



Contents

Service
Monitor Dismantling
Part List
PCB Part List
PCB Layout pictures

Level	1	2	3
Main Board module	SMA193E	SMA224/225 D	SMA224/225 F
CRT module	SMH144G	SMH144G	SMH144G
Video amplifier module ...	SMY039E	SMY039F	SMY039F

When re–ordering manuals, please quote the model name and part number.

ZB1573
12.98

Service

Contents

1. Product Overview
    1.1. Technical Specifications
    1.2. Preset Display Modes
    1.3. S–Capacitor Table
    1.4. Monitor Connection
    1.5. USB Subsystem
        1.5.1. General
        1.5.2. Universal Serial Bus Hub
        1.5.3. USB Ports
        1.5.4. USB Connectors
    1.6. User controls
        1.6.1. Power Switch
    1.7. Menu
    1.8. Password Functions
2. Site Preparation
    2.1. Location
    2.2. Troubleshooting
    2.3. Checking the Operation of Power Saver
3. Controlling the Memory for Picture Adjustments
    3.1. Memory for User Adjustments
        3.1.1. Adjustment
        3.1.2. Resetting the User Memory
    3.2. Memory for Factory Adjustments
        3.2.1. Adjustment
    3.3. Grouping of the Adjustments
4. Service Mode
    4.1. Grouping of the adjustments
    4.2. Service Menu
        4.2.1. Access to the Service Mode
        4.2.2. Geometry and Convergence
        4.2.3. Grey Scale
        4.2.4. Initializing the Replacement IC (IC501 on SMA)
        4.2.5. Storing adjustments
        4.2.6. Exit from service mode
5. Workshop Maintenance
    5.1. Important Safety Notice
        5.1.1. Discharging the CRT
    5.2. ESD–Sensitive Parts
    5.3. Test Equipment
    5.4. Test Patterns
    5.5. Disassembly
        5.5.1. Cabinet
6. Image Performance
    6.1. Active Picture Size and Location
    6.2. Geometrical Distortion
    6.3. Straightness of Line Segment
    6.4. Linearity
    6.5. Phosphor Colour Coordinates
    6.6. Colour Temperature and Tracking
    6.7. Colour Purity
    6.8. Luminance
    6.9. Luminance Uniformity
    6.10.Convergence
7. Adjustment Procedure
    7.1. Adjustment Flow Diagram
    7.2. Preliminary Preparations
        7.2.1. Coarse width
        7.2.2. Sync Range Adjustment
        7.2.3. High Voltage

- 7.2.4. Preliminary Picture Adjustments
- 7.3. Geometry
- 7.4. Grey Scale
  - 7.4.1. The Most Dominant Colour
  - 7.4.2. Low Light
  - 7.4.3. High Light
- 7.5. Maximum/Minimum Contrast
- 7.6. Focus
- 7.7. Convergence
  - 7.7.1. Measuring Conditions
  - 7.7.2. Convergence Measuring Gauge
  - 7.7.3. Static Convergence
  - 7.7.4. Dynamic Convergence
  - 7.7.5. Allowed Error Levels for Convergence
- 7.8. Colour Purity

Revision History

Rev	Date	Prepared by	Comments
06.97	15.06.97	A.Ahola	
05.98	04.05.98	A.Ahola	SMA D– version added SMY F– version added SMH H–version added Password functions added
12.98	15.12.98	A.Ahola	SMA F –version added SMY H –version added SMH J –version added SMY040 (USB Board) added 445T251, 253, 259 and 445T351, 353, 359 added Image Performance added USB Subsystem added

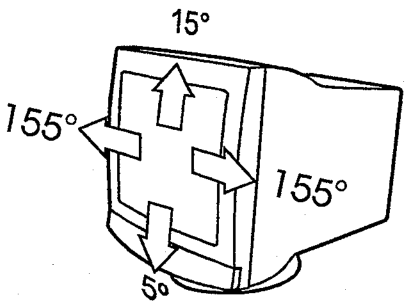
1. Product Overview

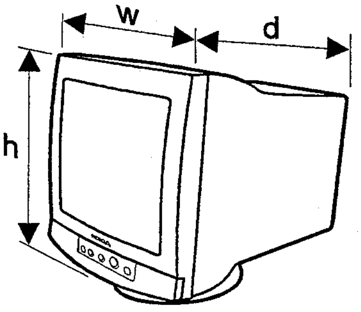
445T is a 21 inch monitor. The maximum resolution of 1800 x 1440 makes the monitor suitable for PC applications using graphical user interfaces. The monitor has an own power supply with input voltage requirements from 90V to 264V.

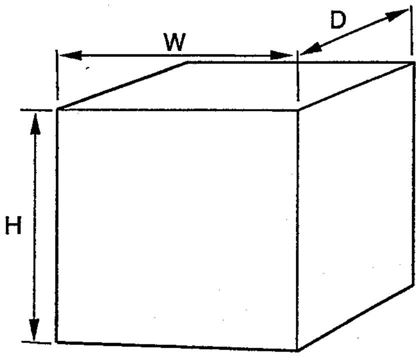
1.1. Technical Specifications

Cathode Ray Tube	21" in diagonal, 90° deflection angle Dark, non–glare, antistatic coating Short persistence (P22) Dot pitch 0.26 mm
Picture Size	387 mm x 290 mm with specified geometric distortion
Maximum Picture Size	400 mm x 300 mm, diagonally 498 mm (19.69")
Power Input Requirements	Voltage 90–264 V, 50/60 Hz Autosense Current 2.3 A/110 V, 1.1 A/240 V
Power Dissipation	< 160 W Normal Operation ~70 W Stand–by < 30 W Suspend < 5 W Auto power off
Memory Locations	15 for factory preset timings 6 for user adjusted timings
Geometric Distortion	The distance between bezel and active screen edge shall not vary more than 2 mm in both vertical and horizontal dimensions
Luminance	Min. 70 cdm–2 (Nits) at center, with full white field
Video Input	Input Signal: RGB, analog, positive, max 0.7 V/75 Ω Horizontal addressability: 1800 dots maximum Vertical addressability: 1440 dots maximum
Synchronization Range	Horizontal: 30 kHz to 121 kHz automatic Vertical: 50 Hz to 150 Hz automatic
Synchronization Signal	Separate TTL, positive/negative Composite TTL, positive/negative Composite, on green 0.3 Vpp negative
Max. Dot Frequency Capability	230 MHz
Temperature	Operating: +10°C to +40°C Packed: –20°C to +60°C
Humidity	Operating: 15% to 85 % Packed: 5% to 95 %
Weight	31 kg net 36 kg gross

Size, Tilt and Swivel



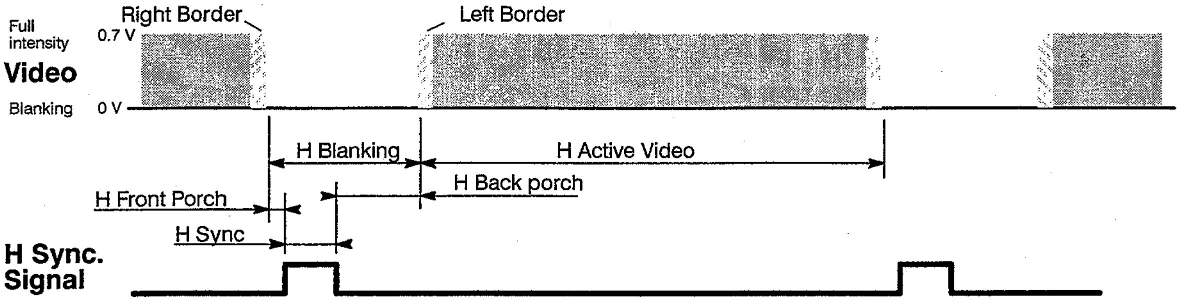


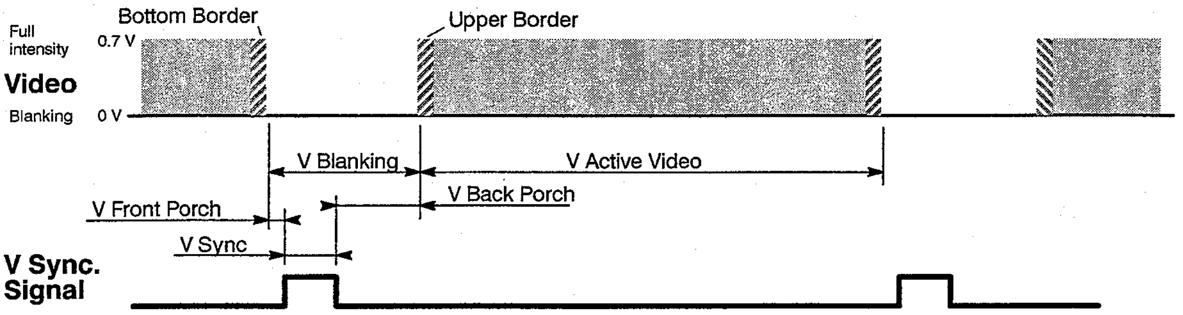


Dimensions

Monitor	h	490 mm
	w	515 mm
	d	544 mm
Package	H	670 mm
	W	670 mm
	D	740 mm

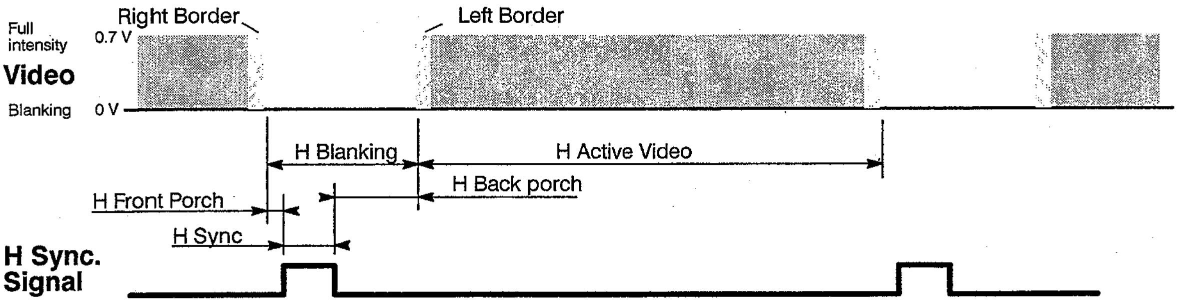
1.2. Preset Display Modes

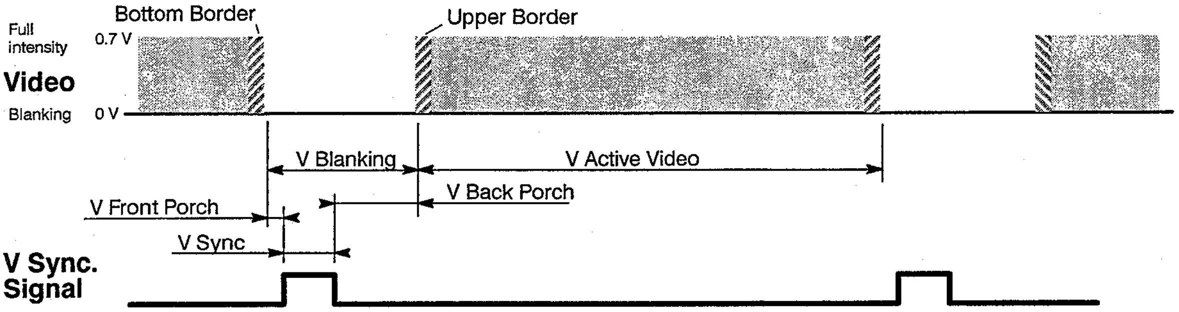

Full intensity
0.7 V
Video
Blanking
0 V
Right Border
Left Border
H Blanking
H Active Video
H Back porch
H Front Porch
H Sync
H Sync.
Signal


Full intensity
0.7 V
Video
Blanking
0 V
Bottom Border
Upper Border
V Blanking
V Active Video
V Back Porch
V Front Porch
V Sync
V Sync.
Signal

Timings for 445T051, 053, 059

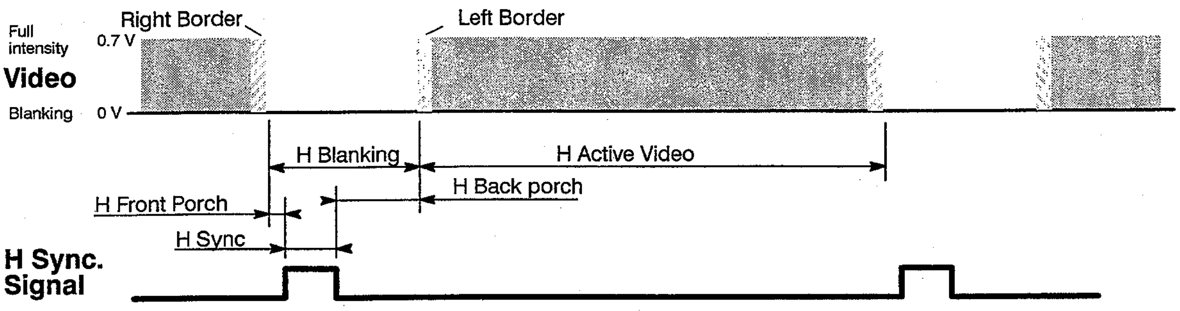
Memory location->	0	1	2	3	4	5	6	7	8	9
Display Mode Name	GTF790	NCE300	NCE406	NCE321G	NCE513	NCE3612	NCE013	NCE605	GTF890	NCE70X
H Frequency/kHz	107.101	31.472	46.875	35.000	68.677	91.146	79.494	79.976	120.438	93.755
H Period/µs	9.337	31.774	21.333	28.571	14.561	10.971	12.904	12.504	8.303	10.666
H Active Video/µs	6.815	25.420	16.162	21.164	10.836	8.127	9.481	9.481	6.007	7.901
H Resolution	1600	640	800	640	1024	1280	1.52	1280	1800	1600
H Sync/µs	0.750	3.81	1.616	2.12	1.02	1.02	1.05	1.062	0.647	0.948
H Back Porch/µs	1.261	1.91	3.232	3.17	2.20	1.52	1.84	1.043	1.145	1.501
V Frequency/Hz	85.0	59.9	75	66.7	85.0	85.0	85.1	75	85.0	75.0
V Period/Lines	1260	525	625	525	808	1072	911	1066	1417	1250
V Resolution	1200	480	600	480	768	1024	864	1024	1350	1200
V Sync/Lines	3	2	3	3	3	3	3	3	3	3
V Back Porch/ Lines	56	33	21	39	36	44	43	38	63	46
H sync Polarity	+	-	+	N/A	+	+	+	+	+	+
V sync Polarity	-	-	+	N/A	+	+	+	+	-	+
H Front Porch/µs	0.51	0.64	0.32	2.12	0.51	0.31	0.53	0.12	0.50	0.32
V Front Porch/ Lines	1	10	1	3	1	1	1	1	1	1
Dot Frequency/ MHz	234.776	25.177	49.500	30.240	94.500	157.500	121.510	135.640	299.650	202.510
Interlacing	no	no	no	no	no	no	no	no	no	no

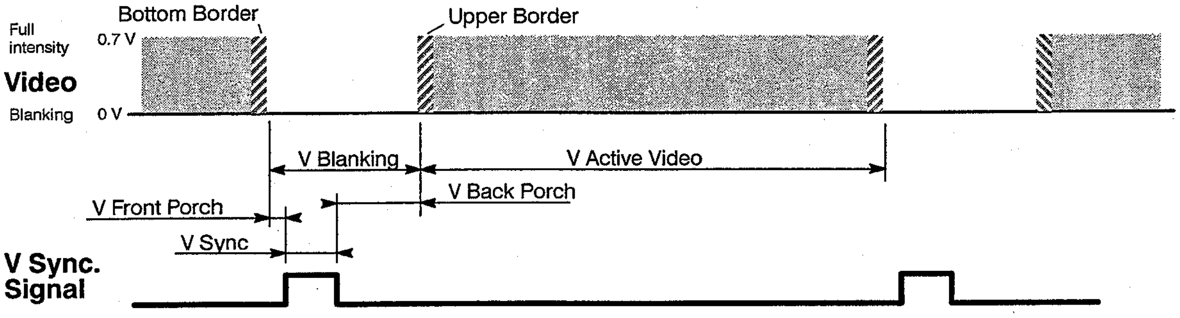

Right Border
Left Border
Full intensity
0.7 V
Video
Blanking
0 V
H Blanking
H Active Video
H Back porch
H Front Porch
H Sync
H Sync. Signal


Bottom Border
Upper Border
Full intensity
0.7 V
Video
Blanking
0 V
V Blanking
V Active Video
V Back Porch
V Front Porch
V Sync
V Sync. Signal

Adjusted timings for 445T351, 353, 359

Memory location->	00	01	02	03	04
Display Mode Name	N107-85A	N-94-75W	L-91-85W	L-80-75W	G-69-85W
H Frequency/kHz	107.101	93.747	91.146	79.976	68.677
H Period/µs	9.336	10.667	10.971	12.503	14.561
H Active Video/µs	6.815	7.901	8.127	9.481	10.836
H Resolution	1600	1600	1280	1280	1024
H Sync/µs	0.750	0.948	1.016	1.067	1.016
H Back Porch/µs	1.261	1.501	1.422	1.837	2.201
V Frequency/Hz	85.0	75.0	85.0	75.0	85.0
V Period/Lines	1260	1250	1072	1066	808
V Resolution	1200	1200	1024	1024	768
V Sync/Lines	3	3	3	3	3
V Back Porch/ Lines	56	46	44	38	36
H sync Polarity	–	+	+	+	+
V sync Polarity	+	+	+	+	+
H Front Porch/µs	0.511	0.316	0.406	0.119	0.508
V Front Porch/ Lines	1	1	1	1	1
Dot Frequency/ MHz	234.780	202.500	157.500	135.010	94.500
Interlacing	no	no	no	no	no


Right Border
Left Border
Full intensity
0.7 V
Video
Blanking
0 V
H Blanking
H Active Video
H Back porch
H Front Porch
H Sync
H Sync. Signal


Bottom Border
Upper Border
Full intensity
0.7 V
Video
Blanking
0 V
V Blanking
V Active Video
V Back Porch
V Front Porch
V Sync
V Sync. Signal

Loaded timings for 445T351, 353, 359

Memory location->	05	06	07	08	09	10	11	12	13	14
Display Mode Name	H-77-85	E-54-85 W	C-43-85 W	C-31-60 W	D-32-70	E-47-75 W	G-48-60 W	G-60-75 W	I-69-75	S113-75 W
H Frequency/kHz	77.494	53.674	43.269	31.472	31.472	46.875	48.363	60.023	68.681	112.499
H Period/µs	12.904	18.631	23.111	31.778	31.778	21.333	20.677	16.660	14.560	8.889
H Active Video/µs	9.481	14.222	17.778	25.422	25.423	16.162	15.754	13.003	11.520	6.465
H Resolution	1152	800	640	640	720	800	1024	1024	1152	1920
H Sync/µs	1.053	1.138	1.556	3.813	3.814	1.616	2.092	1.219	1.280	0.754
H Back Porch/µs	1.843	2.702	2.222	1.907	1.907	3.232	2.462	2.235	1.440	1.185
V Frequency/Hz	85.1	85.1	85.0	59.9	59.9	75.0	60.0	75.0	75.1	75.0
V Period/Lines	911	631	509	525	449	625	806	800	915	1500
V Resolution	864	600	480	480	400	600	768	768	870	1440
V Sync/Lines	3	3	3	2	2	3	6	3	3	3
V Back Porch/ Lines	43	27	25	33	34	21	29	28	39	56
H sync Polarity	+	+	-	-	-	+	-	+	-	-
V sync Polarity	+	+	-	-	+	+	-	+	-	+
H Front Porch/µs	0.527	0.569	1.556	0.636	0.636	0.323	0.369	0.203	0.320	0.485
V Front Porch/ Lines	1	1	1	10	13	1	3	1	3	1
Dot Frequency/ MHz	121.510	56.250	36.000	25.175	28.320	49.500	65.000	78.750	100.000	296.980
Interlacing	no	no	no	no	no	no	no	no	no	no

1.3. S–Capacitor table

F/kHz	PA6	PA5	PA4	PA3	PA2	PA1	PA0	C1 Lin	C2 Lin
	0	0	0	0	0	0	0	0	0
118.3									
	0	0	0	0	0	0	1	0	0
112.8									
	0	0	0	0	0	1	0	1	0
108.0									
	0	0	0	0	0	1	1	1	0
103.5									
	0	0	0	0	1	0	0	1	0
99.5									
	0	0	0	0	1	0	1	1	0
96.2									
	0	0	0	0	1	1	0	1	0
93.1									
	0	0	0	0	1	1	1	1	0
89.2									
	0	0	0	1	0	0	0	1	0
85.6									
	0	0	0	1	0	0	1	1	0
83.5									
	0	0	0	1	0	1	0	1	0
81.5									
	0	0	0	1	0	1	1	1	0
79.5									
	0	0	0	1	1	0	0	0	1
77.7									
	0	0	0	1	1	0	1	0	1
76.1									
	0	0	0	1	1	1	0	0	1
71.4									
	0	0	1	0	0	0	0	0	1
67.4									
	0	0	1	0	0	1	1	0	1
64.8									
	0	0	1	0	1	0	1	0	1
62.9									
	0	0	1	0	1	1	1	0	1
60.8									
	0	0	1	1	0	0	1	0	1
59.0									
	0	0	1	1	0	1	1	0	1
57.5									
	0	0	1	1	1	0	1	0	1
56.2									
	0	0	1	1	1	1	1	0	1
53.9									

F/kHz	PA6	PA5	PA4	PA3	PA2	PA1	PA0	C1 Lin	C2 Lin
53.9									
	0	1	0	0	0	0	1	0	1
50.9									
	0	1	0	0	1	1	1	0	1
48.5									
	0	1	0	1	0	1	1	0	1
46.8									
	0	1	0	1	1	1	1	1	1
45.0									
	0	1	1	0	0	1	1	1	1
43.3									
	0	1	1	0	1	1	1	1	1
42.1									
	0	1	1	1	0	1	1	1	1
41.0									
	0	1	1	1	1	1	1	1	1
39.3									
	1	0	0	1	1	1	1	1	1
37.5									
	1	0	1	0	0	1	1	1	1
36.5									
	1	0	1	0	1	1	1	1	1
35.5									
	1	0	1	1	1	1	1	1	1
34.0									
	1	1	0	0	1	1	1	1	1
32.6									
	1	1	0	1	1	1	1	1	1
32.0									
	1	1	1	1	1	1	1	1	1
30.5									
	1	1	1	1	1	1	1	1	1

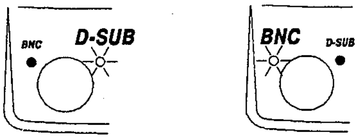
1.4. Monitor Connection

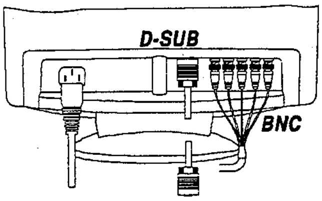
Make sure that the monitor is disconnected from mains and the power switches of the computer and all attached devices are turned off before connecting the monitor.

This monitor can be connects to the computer via D–SUB or BNC connectors. They allowed connection of the monitor to two signal sources at the same time.

The displayed signal can be selected by pushing the button in font panel.

- Connect the signal cable plug to the videocontroller connector at the back of the computer.
- Tighten the screws on the plug by hand.
- Connect the power cord first to the monitor and then to a grounded power outlet.

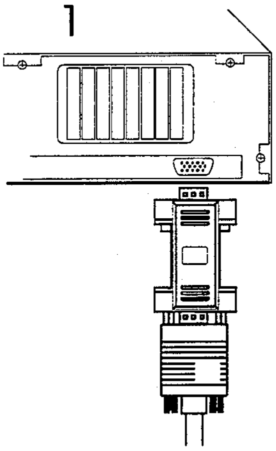




If your monitor is DDC compatible (PC)

- Do not use any adapter when connecting signal cable to your computer.
- Do not extend the signal cable with extension lead. The DDC signals will not accept extended cable.

1



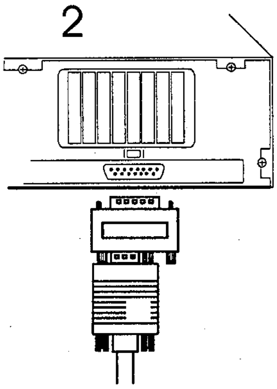
If there is no DDC in your computer (PC)

- Normally there is no need for adaptor when connecting signal cable to your computer.

1. Use a XGA–2 adaptor (QK1511) in the signal cable if you are going to use XGA–2 display mode (1024 x 768, 75 Hz)
2. Use MAC adaptor (QK1518) in signal cable when connecting the monitor to an Apple Macintosh computer.

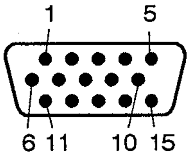
   If the computer is equipped with separate display adapter card. It may have a standard D–SUB connector. In that case Mac adaptor is not needed.

2



Signal connector

Pin		*Signal*	
1	–>	*RV*	*Red video*
2	–>	*GV*	*Green video*
3	–>	*BV*	*Blue video*
4	<–	*ID2*	*ID2 (tied to LG with 332 ohms inside monitor)*
5		*ST*	*DDC GND*
6		*RG*	*Red ground*
7		*GG*	*Green ground*
8		*BG*	*Blue ground*
9	–>		*Not connected*
10		*LG*	*Logic ground*
11	<–	*ID0*	*ID0 (tied to LG with 332 ohms inside monitor)*
12	<–	*SDA*	*DDC SDA*
13	–>	*Hs*	*Hor. sync., Comp. sync.*
14	–>	*Vs*	*Vert. sync.*
15	<–	*SCL*	*DDC SCL*



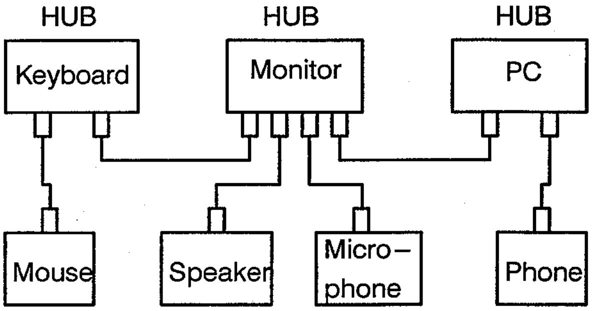
1.5. USB Subsystem (Optional)

1.5.1. General

USB is standard serial bus for connecting peripherals to your PC. USB is the key to true Plug and Play capabilities of your PC.

- USB enables you to attach and detach new peripherals while your PC is running.
- You don't have to wonder about which port of the PC you should use when plugging in a peripheral. since all four–pin USB connectors accept any USB peripheral to be connected, there is no way to do it wrong.
- Also the need for configuring and booting in adding or removing new peripherals disappears. USB itself detects and configures peripherals as soon as they are attached or deattached.
- It allows your system to grow in response to your needs without extra costs. In theory USB supports up to 127 devices.
- USB has a wide industry support among leading computer, telecommunications, electronics and software companies.

USB requires one host in any USB system: it is normally the PC. Only one USB device has to be in direct connection to the PC and the others can be connected through USB hubs. Each hub has downstream ports for attaching peripherals and one upstream port for connection towards the host. The picture below illustrates the USB system.



USB has two data bandwidths, which can be in use simultaneously:

- The high-speed bandwidth (12Mbps) supports multimedia and telephony devices
- The low-speed bandwidth (1.5Mbps) is dedicated for low-end devices like keyboards and mice

USB enables transferring compressed video for teleconferences, but it cannot handle moving video with high resolution.

USB devices can be divided into two categories, namely bus-powered and self-powered devices:

- Self-powered devices take their power from the mains supply
- Bus-powered devices rely on the power supplied by the USB cable. In the picture before low-power devices like keyboard and mouse can be called as bus-powered devices

Each USB cable segment provides +5 volts of power. The maximum length of USB cable segment is 5 meters.

The host in the system is responsible for allocating USB bandwidth for transferring information. Data transfer over the USB cable starts with synchronization information. This information is called the Token Packet. It includes information about the type and the direction of the transfer, USB device address and an endpoint number. After that follows the actual Data Packet or control information.

The destination of the transfer answers with a Handshake Packet as a mark of a successful transfer. USB error rate is very low, but in case of an error USB hardware will retry sending three times before informing the software about the error

In addition the host (or the PC) detects the attachment or removal of any USB device. All USB devices are attached to the USB through hubs. They indicate the removal or attachment of a USB device in their port status.

After that the host of the system enables the port and defines a unique USB address for the device. In case of a device removal the hub disables the port and gives an indication of device detachment to the host. If the added or removed device is a hub the above procedure must be performed for all the attached peripherals.

1.5.2. Universal Serial Bus Hub

The USB provides Plug and Play capabilities for peripherals. The bus physical interconnection is a tiered star topology. USB system provides hub for four downstream devides.

1.5.3. USB ports

Unit is capable to handle 4 connected downstream USB devides from the HUB. There are so 4 pcs serie A and one piece serie B for upstream (root) connectors in the rear of the monitor. These can be used for any PC based application as keyboard, mouse, printer, scanner, modem, etc.

Display controls and alignments via PC:

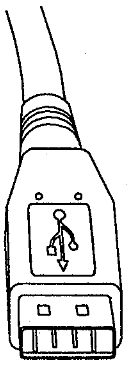
- Power mode:	ON, Stand–by, Suspend, OFF
- Control codes:	Brightness, Contrast, R Gain, G Gain, B, Gain, R Black Level, G Black Level B Black Level, H Position, H Size, H Pin Balance, V Position, V Size, H Moire, V Moire, Parallelogram Distortion, Trapezoidal Distortion, Tilt

1.5.4. USB connectors

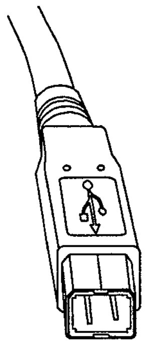
The data is transferred differentially meaning low radiation. The driver delivers initially ≥ 2V swing to the cable of $Z_0 = 90\ \Omega \pm 15\%$. Data signal rise time is 4 ns$_{min}$ and 20 ns$_{min.}$ Add–on jitter from driver is < 3 ns. Maximum cable length is 5 m.

The differential receiver sensitivity is at least 200 mv. Maximum allowed jitter is 25 ns.

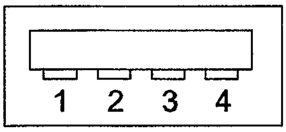
The port supplies 4,75V – 5,25V having current up to 0.5 A to the peripherals. Combined 3 port current limitation is provided for safety reasons. Current of the 0.5 mA is taken in suspend mode and starting current of 0.1 A is quaranteed.

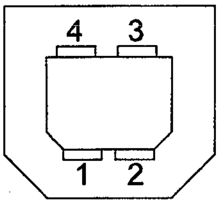


Type A (downstream)

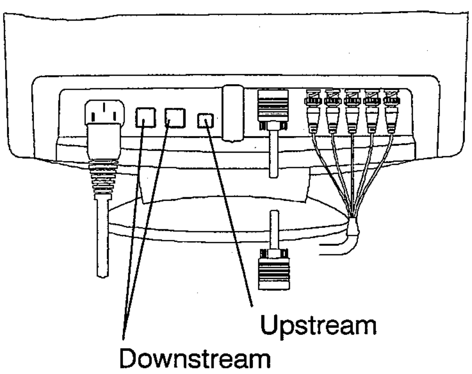


Type B (upstream)





1. Vcc
2. Data –
3. Data +
4. GND

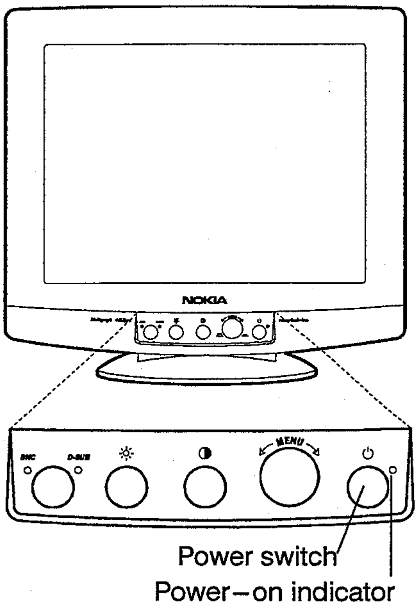


1.6.User Controls

1.6.1. Power Switch

Turning the Monitor ON and OFF

Push the **power switch** to turn the monitor on or off.



When the power is turned on, the **power–on indicator** will light.
The colour of the the power–on light indicates the operating state of the monitor.

Green	The monitor is in normal operation.
Red	The monitor is in automatic power off state.
Not illuminated ..	The monitor is turned off with power switch or disconnected from mains outlet.

If the power management function working properly in your computer, you do not need to switch the monitor on or off. It happens automatically.

⚠ **The power switch does not disconnect the monitor from mains. In oder to make the monitor completely powerless, unplug the power cord from power outlet.**

1.7.Menu

Basic Adjustments

The PICTURE SHAPE menu contains the most useful adjustments.

① The menu is called to the screen by pushing the Menu wheel.

② Select the property you want to adjust with the Menu wheel (e.g. WIDTH). The selected item in the menu is illuminated with white color.

③ Adjust the selected property (WIDTH) with the Menu wheel. The menu disappears and a scale shows the position of the adjustment. Turning the Menu wheel to the right increases the property and turning the Menu wheel to the left decreases the property.

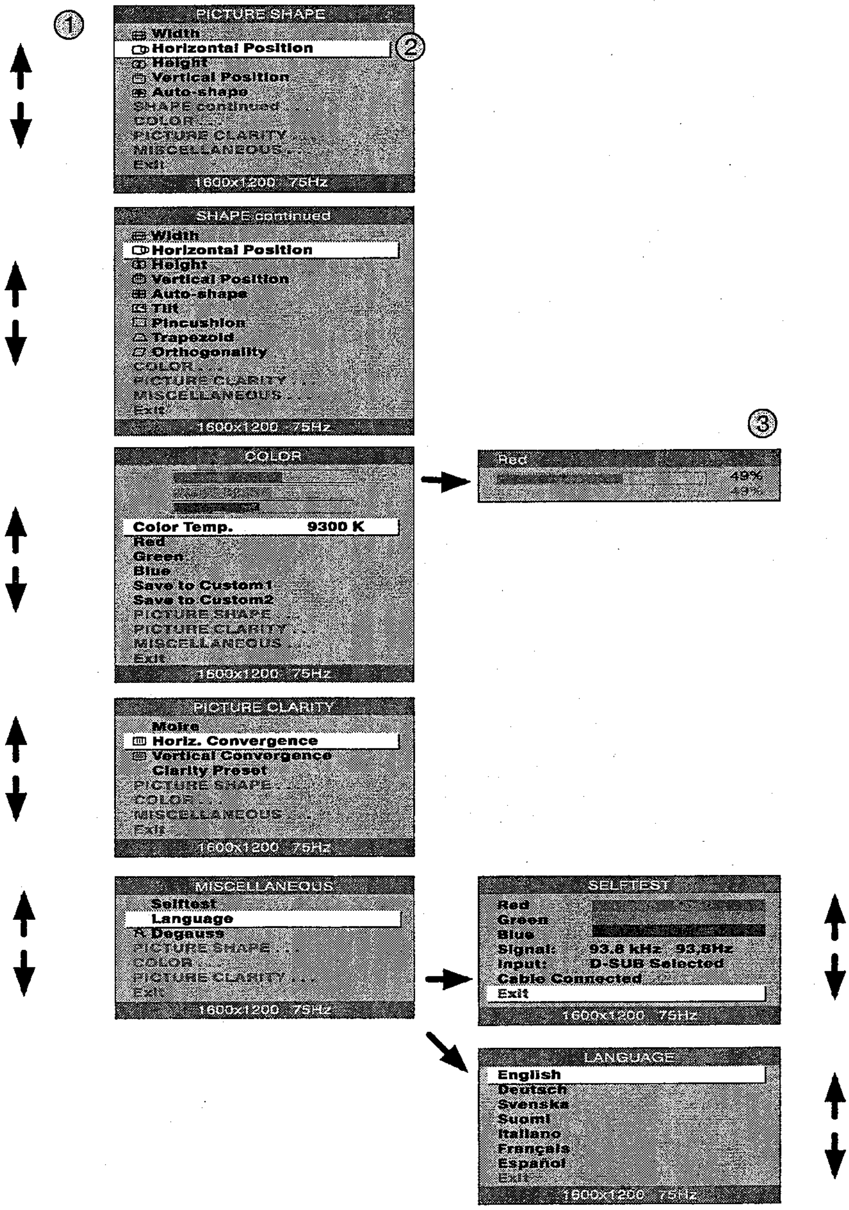
After adjusting, the new setting will be stored automatically.

All menu displays disappear automatically in a few seconds or at once by pushing exit.

The latest item can be called to the screen simply by pushing the Menu wheel.

If you want to adjust other properties select with the menu wheel the header which contains the adjustment you are looking for.

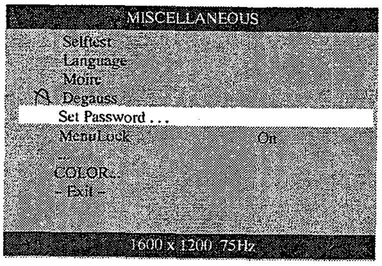
Open the selected submenu by pushing the menu wheel.


①
PICTURE SHAPE
Width
Horizontal Position
②
Height
Vertical Position
Auto-shape
SHAPE continued . . .
COLOR . . .
PICTURE CLARITY . . .
MISCELLANEOUS . . .
Exit
1600x1200 75Hz
SHAPE continued
Width
Horizontal Position
Height
Vertical Position
Auto-shape
Tilt
Pincushion
Trapezoid
Orthogonality
COLOR . . .
PICTURE CLARITY . . .
MISCELLANEOUS . . .
Exit
1600x1200 75Hz
③
COLOR
Color Temp. 9300 K
Red
Green
Blue
Save to Custom1
Save to Custom2
PICTURE SHAPE . . .
PICTURE CLARITY . . .
MISCELLANEOUS . . .
Exit
1600x1200 75Hz
Red
49%
49%
PICTURE CLARITY
Moire
Horiz. Convergence
Vertical Convergence
Clarity Preset
PICTURE SHAPE . . .
COLOR . . .
MISCELLANEOUS . . .
Exit
1600x1200 75Hz
MISCELLANEOUS
Selftest
Language
Degauss
PICTURE SHAPE . . .
COLOR . . .
PICTURE CLARITY . . .
Exit
1600x1200 75Hz
SELFTEST
Red
Green
Blue
Signal: 93.8 kHz 93.8Hz
Input: D-SUB Selected
Cable Connected
Exit
1600x1200 75Hz
LANGUAGE
English
Deutsch
Svenska
Suomi
Italiano
Français
Español
Exit
1600x1200 75Hz

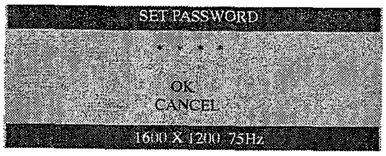
1.8. Password Functions

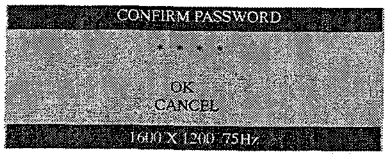
The Password functions will be inactive when shipped from the factory. The User will have to perform the following procedure to activate it:

- Move the cursor to the DEGAUSS adjustment press the Menu wheel and hold for 10 seconds. After that time the Set Password and Menu Lock shall be come visible.
- To deactivate (not visible) the function follow the same step has above (password will be delete also).


MISCELLANEOUS
Selftest
Language
Moire
Degauss
Set Password . . .
MenuLock
On
...
COLOR..
- Exit -
1600 x 1200 75Hz

The user can set a password for OSM access control and can also specify whether the Password shall be active or not. Once password is activate (MENU LOCK ON) the user will be prompted to enter the password every time the OSM is called.


SET PASSWORD
* * * *
OK
CANCEL
1600 X 1200 75Hz

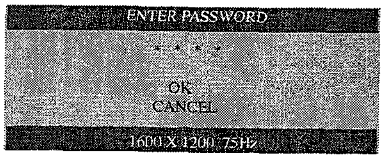

CONFIRM PASSWORD
* * * *
OK
CANCEL
1600 X 1200 75Hz

When the user enters the SET PASSWORD the cursor will be automatically placed on the place of the first number. The user can turn the Menu wheel to select numbers from 0...9 and selects the number by pressing the Menu wheel, which moves the cursor to the place of the next number. If user wants to delete the entered password, he must select CANCEL, which erase the complete password. Selecting OK will give another window to confirm the password. Selecting OK will store the set password and return to the MISCELLANEOUS menu.

Note ! If the user does not enter any number for a password, the MENU LOCK must be set to OFF.

In case the user has set a password and activated the MENU LOCK by setting ON, he will be prompted to enter the password every time the OSM starts up.

The procedure for entering the password is the same as in the SET PASSWORD window.


ENTER PASSWORD
* * * *
OK
CANCEL
1600 X 1200 75Hz

NOTE !

Besides the user defined password, there will be second password, allowing authorized personnel to enter the OSM in any case. This password shall be 3582.

2. Site Preparation

2.1. Location

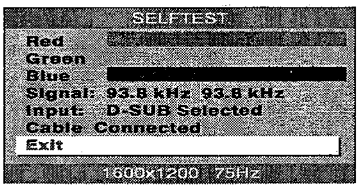
This Monitor is designed for normal office conditions. It is equipped with own power supply. It is not to be serviced or repaired on site

2.2. Troubleshooting

Local service facilities should perform simple maintenance such as trimming. More advanced maintenance and repair that requires replacement of components which in turn requires testing and retrimming should be carried out in a central workshop.

Symptom		**Measures**
Picture screen is blank	The indicator on the front panel is not illuminated	Check that the power cord is correctly connected to the monitor and to the power outlet. If the monitor is powered through the computer, check that the computer is switched on with the mains switch. Use a desk light, for example, to verify that current is connected to a power outlet. If no electricity is connected to the outlet, call an electrician.
		Unplug the monitor from power outlet for about one minute.
	The indicator on the front panel is illuminated	Check that the signal cable connector is connected. If the connector is loose, tighten the connector's screws.
		The Monitor might be in stand-by position. Push one of the buttons or move the mouse.
		Unplug the monitor from outlet for about one minute.
		Switch off the monitor and the computer. Remove the signal cable from the computer. Switch on the monitor using the power switch. If the Selftest menu appears on the screen, it is evident that the monitor functions correctly and the problem is caused by an error in other parts of the system.
		Check the signal cable's connection pins. If the pins are slightly distorted, use nose pliers to straighten them.
		The Selftest menu appears. The computer may use a timing values which are out of the monitor's synchronization range.
Picture has colour defects		Demagnetize the monitor
		If colour defect is repeated without the monitor having been moved, it is possible that the monitor is influenced by a strong magnetic interference field (near to a high power cable, for example). Try to find a better location for the monitor or the interference source. Note that another monitor placed too near (less than 30 cm.) may also generate interference in the picture.
Picture has strong color defect,		Open the Miscellaneous/Selftest menu. Check the color of the Red, Green and Blue bars. If they have pure colors, the fault is not in the monitor. Check signal cable connectors and the computer. If the menu itself and the color bars are discolored, the monitor is obviously damaged.
Picture is stable but distorted		Your computer may use a timing for which the corresponding picture characteristic adjustments have not been set at the factory. Adjust the picture characteristics
Picture is unstable		Check the proximity of other electrical devices that generate magnetic fields, such as speakers, other monitors, electric fans and fluMake sure your computer and video card are properly configured for your monitororescent light fixtures.

The automatical appearance of the Selftest menu on the screen means that the signal is faulty or missing.



Signal: 93.8 kHz 93.8 kHz
Input: D-SUB Selected
Cable Connected
1600x1200 75Hz

2.3. Checking the Operation of PowerSaver

The proper operation of the function requires a computer with VESA DPMS power management capabilities. Note that the power saving feature must be activated in the computer when checking the operation.

State	Colour of the power–on indicator	5V	7V	12V	Video
Normal Operation	Green	Yes	Yes	Yes	Yes
Stand–by	Green	Yes	Yes	Yes	No
Suspend	Green	Yes	Yes	No	No
Power Off	Red	Yes	No	No	No

DPMS (Display Power Management Signaling) is a trade mark of Video Electronics Standard Association (VESA)

3. Controlling the Memory for Picture Adjustments

The picture adjustment values are stored in non-volatile memory. The memory has separated areas for User Adjustments and for Factory Adjustments.

3.1. Memory for User Adjustments

3.1.1. Adjustment

$\boxed{1}$ If there are values available in the memory for user adjustments, corresponding to the present timing signals, they are always used.

$\boxed{2}$ New user made adjustments are stored to the memory for user adjustments.

3.1.2. Resetting the User made settings for geometry or image

$\boxed{3}$ User memory can be emptied from user made settings. **Resetting affects only the timing which is currently active.** The reset function is inhibited if no corresponding factory preset display mode exists.

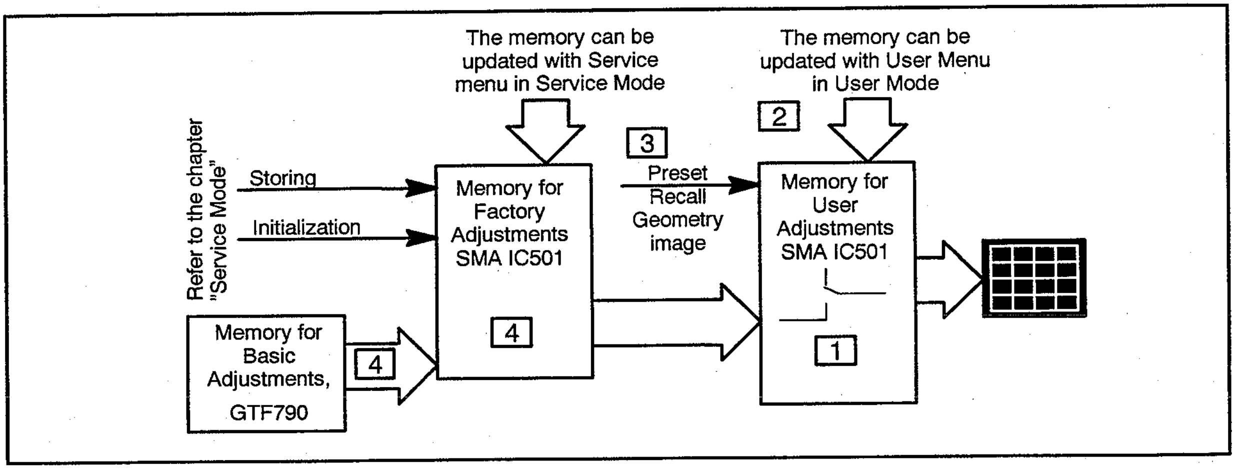
After resetting all picture properties are coming from memory for factory adjustments.

3.2. Memory for Factory Adjustments

3.2.1. Adjustment

$\boxed{4}$ Factory adjustments can be updated with service menu in service mode. If there is no location in factory adjustment memory for timings currently in use, the adjustment affects the memory for user adjustments.

- If the memory location mentioned in case $\boxed{1}$ is empty, the picture adjustment values are read from memory for factory adjustments. Factory adjustments, corresponding to the current timings, are transferred to user memory if any picture property is adjusted. After that the operation is as in case $\boxed{1}$.


The memory can be updated with Service menu in Service Mode
The memory can be updated with User Menu in User Mode
Refer to the chapter "Service Mode"
Storing
Initialization
Memory for Factory Adjustments SMA IC501
4
3
Preset Recall Geometry image
2
Memory for User Adjustments SMA IC501
1
Memory for Basic Adjustments, GTF790
4

4. Service Mode

Service Mode is needed for updating of the factory adjustments for timings listed in the chapter Preset Display Modes. If there is no location in factory adjustment memory for display mode currently in use, the adjustment affects the memory for user adjustments.

4.1. Grouping of the Adjustments

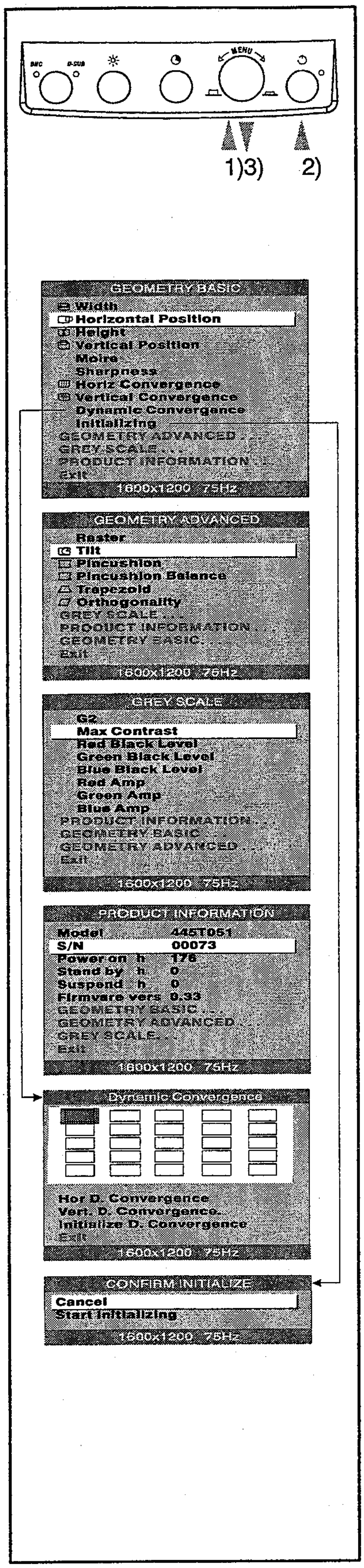
There are three groups of software adjustments in service mode:

- Geometry Basic set
- Geometry Advanced set
- Grey Scale adjustment set

The following table shows how the adjustments act in relation to the display modes.

Adjustment	Common for all Display modes	Separate for each Display mode	Available in User Mode	Available in Service Mode
Brightness	X			X
Horizontal centring		X	X	X
Vertical centring		X	X	X
Height		X	X	X
Width		X	X	X
Pincushion		X	X	X
Trapezium		X	X	X
Orthogonality		X	X	X
Horizontal convergence	X		X	X
Vertical convergence	X		X	X
Moire		X	X	
Pincushion balance		X		X
Horizontal raster centring	X			X
Tilt	X		X	X
G2	X			X
Max contrast	X			X
R Blacklevel	X			X
G Blacklevel	X			X
B Blacklevel	X			X
R Amp	X			X
G Amp	X			X
B Amp	X			X
Raster	X			X

Common adjustments need to be adjusted only once. Separate adjustment must be performed for every display mode to be stored.


D-SUB
MENU
1)3)
2)
GEOMETRY BASIC
Width
Horizontal Position
Height
Vertical Position
Moire
Sharpness
Horiz Convergence
Vertical Convergence
Dynamic Convergence
Initializing
GEOMETRY ADVANCED . . .
GREY SCALE . . .
PRODUCT INFORMATION . . .
Exit
1600x1200 75Hz
GEOMETRY ADVANCED
Raster
Tilt
Pincushion
Pincushion Balance
Trapezoid
Orthogonality
GREY SCALE . . .
PRODUCT INFORMATION . . .
GEOMETRY BASIC . . .
Exit
1600x1200 75Hz
GREY SCALE
G2
Max Contrast
Red Black Level
Green Black Level
Blue Black Level
Red Amp
Green Amp
Blue Amp
PRODUCT INFORMATION . . .
GEOMETRY BASIC . . .
GEOMETRY ADVANCED . . .
Exit
1600x1200 75Hz
PRODUCT INFORMATION
GEOMETRY BASIC . . .
GEOMETRY ADVANCED . . .
GREY SCALE . . .
Exit
1600x1200 75Hz
Dynamic Convergence
Hor D. Convergence
Vert. D. Convergence.
Initialize D. Convergence
Exit
1600x1200 75Hz
CONFIRM INITIALIZE
Cancel
Start Initializing
1600x1200 75Hz

Model 445T051
S/N 00073
Power on h 176
Stand by h 0
Suspend h 0
Firmware vers 0.33

4.2. Service Menu

4.2.1. Access to Service Mode

Active the service mode always in 107.1 kHz/85 Hz (GTF790).

First switch OFF the monitor with power switch.

1) Push the Menu wheel down.
2) While keeping the Menu wheel down, switch ON the monitor.
3) Release the Menu wheel **when the picture has appeared.**
4) Press the Menu wheel.
5) Insert the password 7711 and select OK with the Menu wheel.

Select the items in the Menu with by turning the Menu wheel. Push the Menu wheel to open Geometry Advanced , Grey Scale or Product Information Submenu or to Initialize the memory IC. Adjust each property with the Menu wheel.

4.2.2. Geometry Basic and Advanced

Geometry submenus contain placement, size and shape adjustments.

4.2.3. Grey Scale

This monitor has six preset tints. With tint numbers smaller than 4 the picture becomes reddish and with tint numbers greater than 4 the picture turns blue.

Tint no	1	2	3	4	5	6	7
Colour Temperature	5000K	6000K	6500K	7000K	8000K	9300K	10000K

The grey scale adjustment affects directly tint number 6 (9300K) only. Other tints are derived automatically from 9300K colour temperature.

4.2.4. Initializing the Replacement IC501 on SMA board

If the memory for factory adjustments is replaced, it must be initialized. During initializing all memory locations are written with approximate values. They must be updated in service mode as explained in the chapter 'Adjustment Procedure'.

- Activate service mode as explained before.
- Select INITIALIZING in the Geometry Basic menu.
- Confirm Initialization by selecting Start Initializing and pushing the Menu wheel.
- Switch OFF the monitor.

Caution
Initializing of a programmed memory IC deletes all user and factory made adjustments.

4.2.5. Storing the Adjustments

When the adjustment is ready, return to the menu by pushing The Menu wheel. The new setting is stored automatically.

4.2.6. Exit from Service Mode

1. Select exit from the Geometry Basic / Geometry Advanced or Grey Scale menu
2. Switch off the monitor.

5. Workshop Maintenance

5.1. Important Safety Notice

The components, which are important for safety, are marked with special mark ⚠ on the circuit diagram. It is essential that these critical parts should be replaced with manufacture's specified parts to prevent X–radiation, shock, fire or other hazards.

For your own safety, use always safety isolating transformer when repairing the monitor.

5.1.1. Discharging the CRT

High voltage circuitry includes bleeder resistor which normally discharges the tube in about 5 seconds after the power is switched off. If you – for safety reasons – want to be sure about the discharging, do as follows:

Wear safety goggles. A cracked CRT may implode when discharged.
The signal cable must be disconnected from the computer.

To discharge the CRT, a flat–head screwdriver with grounding cable is required.

- Disconnect the power cable.
- Connect the metal chassis of the monitor to reliable earth.
- Connect the grounding wire to the screwdriver.
- Connect the other end of the grounding wire to the chassis (earth).
- Insert the screwdriver under the rubber cap of the EHT connector to discharge the tube.
- Disconnect the power cable.

5.2. ESD–Sensitive Parts

To prevent damage, when working with electrostatic discharge (ESD) sensitive parts, observe the following instructions:

- Keep the ESD–sensitive part in its original shipping container until you are ready to install the part into the component card.
- Just before touching the ESD–sensitive part, discharge to the monitor any static electricity in your body; do this by touching the metal frame or cover of the machine. If possible, keep one hand on the frame when inserting or removing a logic card, for example.
- Hold the ESD–sensitive part by its edge; do not touch its pins.

5.3. Test Equipment

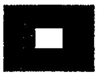
The following test equipment are required to adjustment procedure.

- Safety isolating transformer
- Digital multimeter: Fluke 87 or equivalent true RMS multimeter
- High voltage probe: e.g. Fluke 80–40k
- Signal generator: VTG220 + PC or programmable video generator
- Color analyzer: e.g. Minolta TV Color Analyzer CA100
- Convergence Gauge (CM7AR or equivalent)
- Oscilloscope 40–100 MHz band width
- Hi–Pot tester (Flash tester with insulation measurement / Leakage current / Break down voltage)
- ESD protection necessary

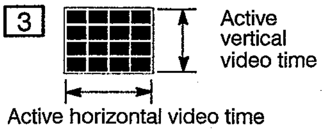
5.4. Test Patterns

1

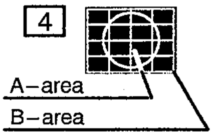
2



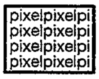
3



4



5



1 Black Picture
- Signal level = 0 V at each RGB input

2 Highlight grey scale tracking
- Signal level = 700 mV in the window at each RGB input

3 Crosshatch Picture
- Squares e.g. 20 mm x 20 mm
- Outmost lines correspond the active vertical/horizontal video time

4 Convergence test pattern

5 Focus test pattern

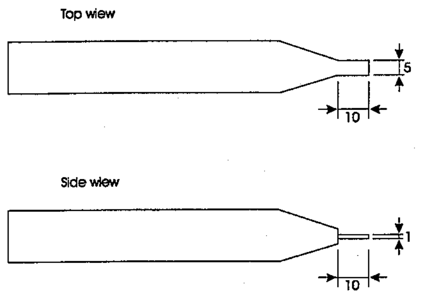
5.5. *Disassembly*

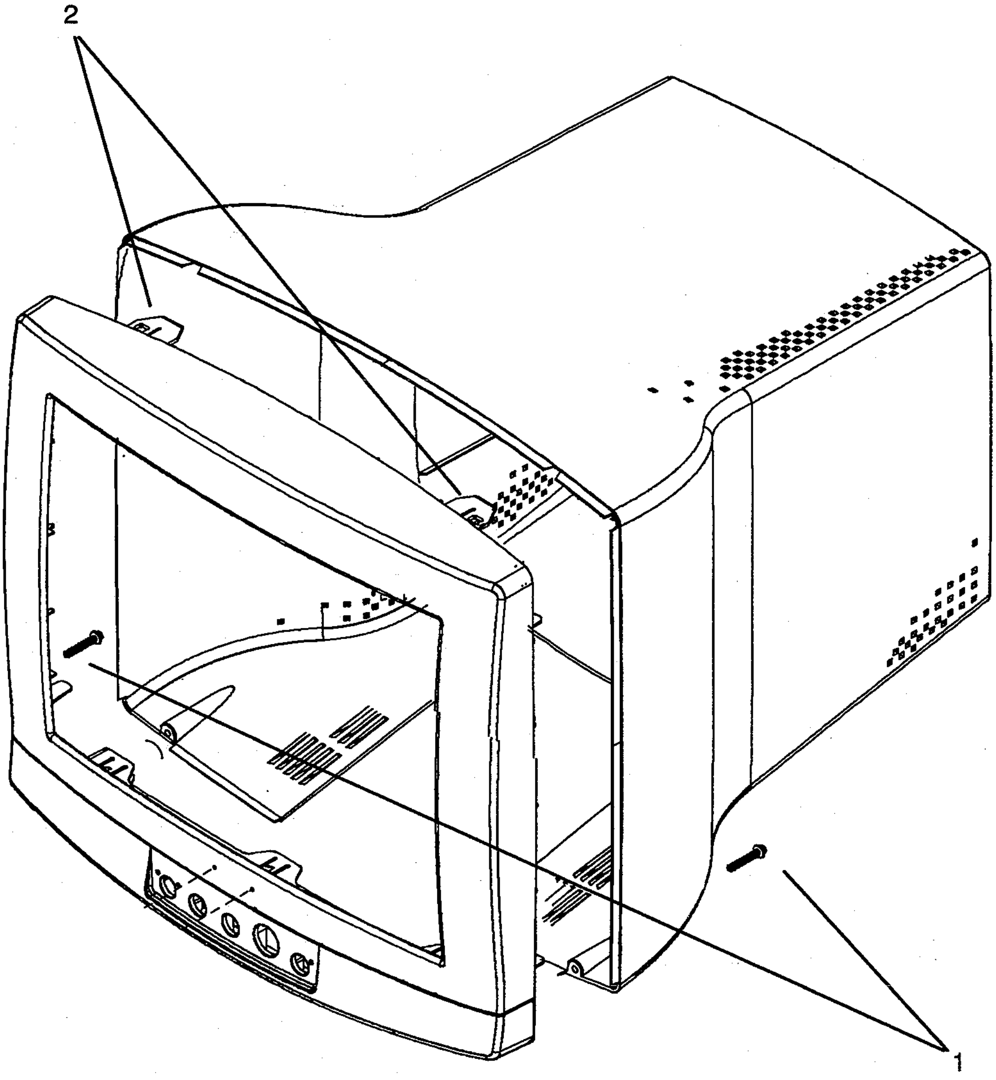
5.5.1. Cabinet

Set the monitor on cushion picture tube facing down

1. Loosen and remove two screws.
2. Open the plastic pawl with a screwdriver or the special tool (for instance 860006)

860006


Top wiew
5
10
Side wiew
1
10



6.6. Luminance

Measurement:

Luminance shall be measured using two different pictures:

- Full white fields
- In the center of the screen white field 50 x 50 mm.

In the full white field five areas are measured: the center and each corner area. The unit must be degaussed after it has been rotated.

Requirements:

Maximum contrast luminance:

With the brightness control set so that background illuminance to 0,5 cdm−2 (Nits) and the contrast control set to maximum, measure the maximum luminance at the center of the picture.

Full white field	90 ± 20 cdm−2 (Nits)
50 x 50 mm white field	145 ± 30 cdm−2 (Nits)

Minimum luminance:

Using full white picture, with the brightness and contrast controls in minimum, the foreground is not extinguished.

Background luminance:

The luminance of the background, measured at the center of the screen without active video and in the absence of significant ambient illumination, illuminance at maximum (end of rotation clockwise), must be:

1 cdm−2 (Nit) =< L0 =< 10 cdm−2 (Nits)

The background shall be extinguished before brightness control reaches its end of rotation counterclockwise.

Normal brightness:

The center position of brightness adjustment is targeted to 0.2 cdm−2 (Nits)

Contrast center position:

Contrast adjustment range is non−linear. With the nominal brightness the contrast center position is targeted to provide 70% – 90% full white luminance of the full white luminance with contrast in maximum.

Uniformity:

With full white field and with the brightness control set so that the background raster is just extinguished and with the contrast control set for luminance of 70 cdm−2 (Nits) at the center of the screen measure the luminance uniformity. The luminance at anywhere in the display area must be more than 75 % (49 cdm−2 (Nits)) of the luminance of the center.

6.7. Color Temperature and Tracking

Measurement conditions

Test pattern 50 x 50 mm white field at the screen center.

Brightness control adjusted for a background raster luminance level of 1 cdm−2 (Nits).

Input signals R,G,B with maximum amplitude.

Requirements:

When contrast−control is adjusted for 70 cdm−2 (Nits) luminance level, the factory adjusted colour coordinates measured at the screen centre will be:

X: 0.283 ± 0.025

Y: 0.298 ± 0.025

When contrast control is adjusted from a luminance level of 100 cdm−2 (Nits) to 35 cdm−2 (Nits) or its adjust stop, the colour coordinates do not vary more than

X: X_{ref} ± 0.025

Y: Y_{ref} ± 0.025

6.8. White Uniformity

Measurement conditions:

Full Screen picture size	400 x 300 mm
Illuminance in middle	70 cdm−2 (Nits)
Magnetic field horizontal	0 Gauss
vertical	0.45 Gauss
Warming up time	1 hour

Maximum variation between colour coordinates between any measurement point shall not vary more than below.

Colour coordinates	x: ± 0.015
	y: ± 0.015

6.9. Colour Purity

There should not be visual discoloration with each of the red, green and blue beams after the tube is moved to any directions.

Measurement conditions:

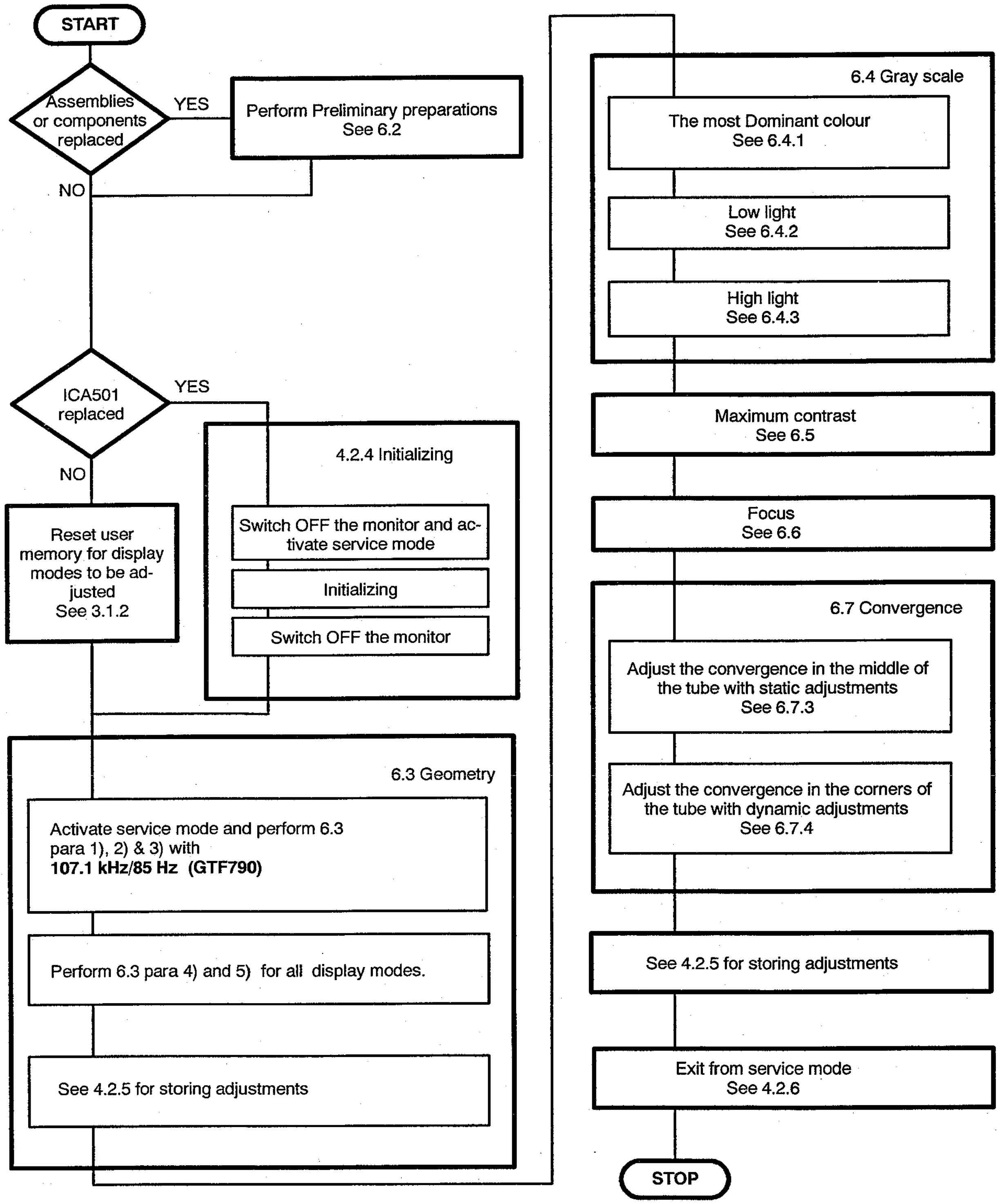
Full Screen picture size	400 x 300 mm
Illuminance in middle	70 cdm−2 (Nits)
Magnetic field horizontal	0 Gauss
vertical	0.45 Gauss
Warming up time	1 hour
Colour coordinates	x: ± 0.015
	y: ± 0.015

7. Adjustment Procedure

The following procedure must be carried out in case of large service operations e.g. when a circuit board or nonvolatile memory ICA501 has been replaced by a new one.

The order of adjustments explained here has been found to produce the desired result with the minimum of effort. Adjustments can also be made in another order or completely separately.

7.1. Adjustment Flow Diagram

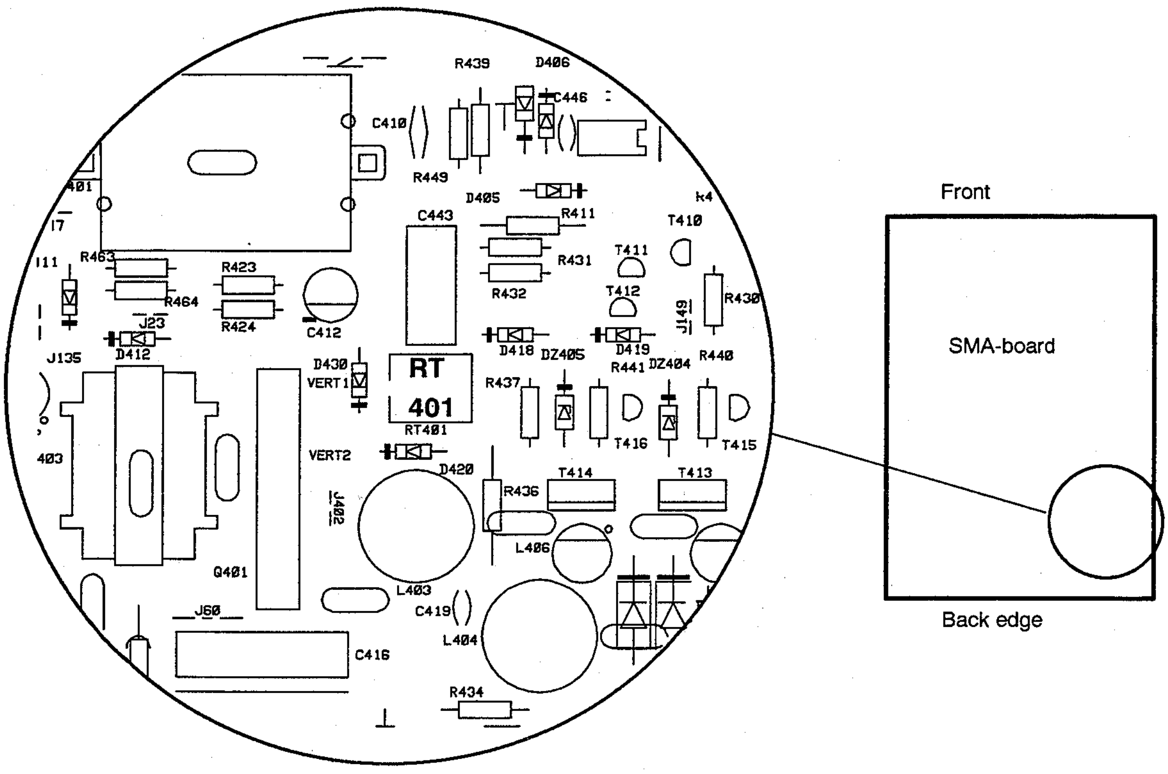

START
Assemblies or components replaced
YES
Perform Preliminary preparations See 6.2
NO
ICA501 replaced
YES
NO
4.2.4 Initializing
Switch OFF the monitor and activate service mode
Initializing
Switch OFF the monitor
Reset user memory for display modes to be adjusted See 3.1.2
6.3 Geometry
Activate service mode and perform 6.3 para 1), 2) & 3) with 107.1 kHz/85 Hz (GTF790)
Perform 6.3 para 4) and 5) for all display modes.
See 4.2.5 for storing adjustments
6.4 Gray scale
The most Dominant colour See 6.4.1
Low light See 6.4.2
High light See 6.4.3
Maximum contrast See 6.5
Focus See 6.6
6.7 Convergence
Adjust the convergence in the middle of the tube with static adjustments See 6.7.3
Adjust the convergence in the corners of the tube with dynamic adjustments See 6.7.4
See 4.2.5 for storing adjustments
Exit from service mode See 4.2.6
STOP

7.2. Preliminary Preparations

Connect the signal cable to the PC. Switch on the monitor and the PC. Let the monitor warm up for 20 minutes before starting the adjustments.

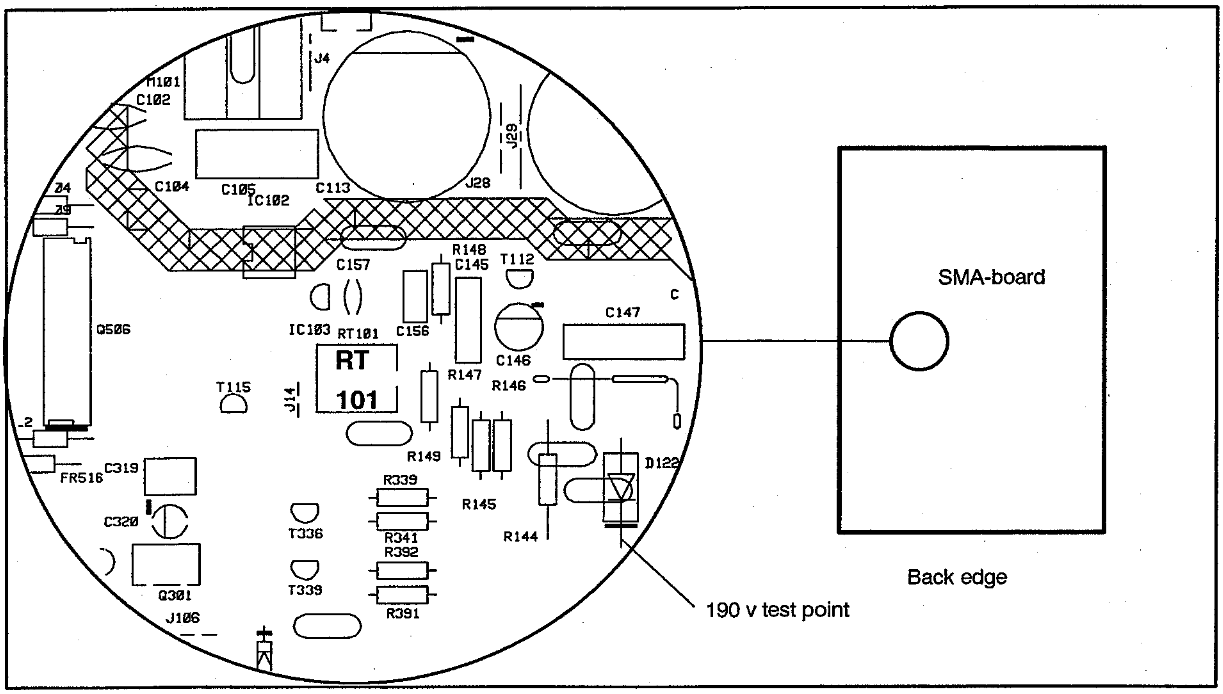
7.2.1. Coarse Width

- Select 107.1 kHz/85 Hz (GTF790) crosshatch test pattern
- Set width to the 65% of the maximum with menu adjustment
- Set width equal to the mask aperture (400 mm) with coarse adjustment **RT401**


R439
D406
C446
C410
R449
D405
R411
C443
T410
R431
T411
R432
T412
R430
J149
R463
R423
R464
R424
C412
J23
D412
J135
D418
DZ405
D419
R441
DZ404
R440
D430
VERT1
RT
401
RT401
R437
T416
T415
403
VERT2
D420
T414
T413
J402
R436
L406
Q401
L403
C419
J60
L404
C416
R434
Front
SMA-board
Back edge

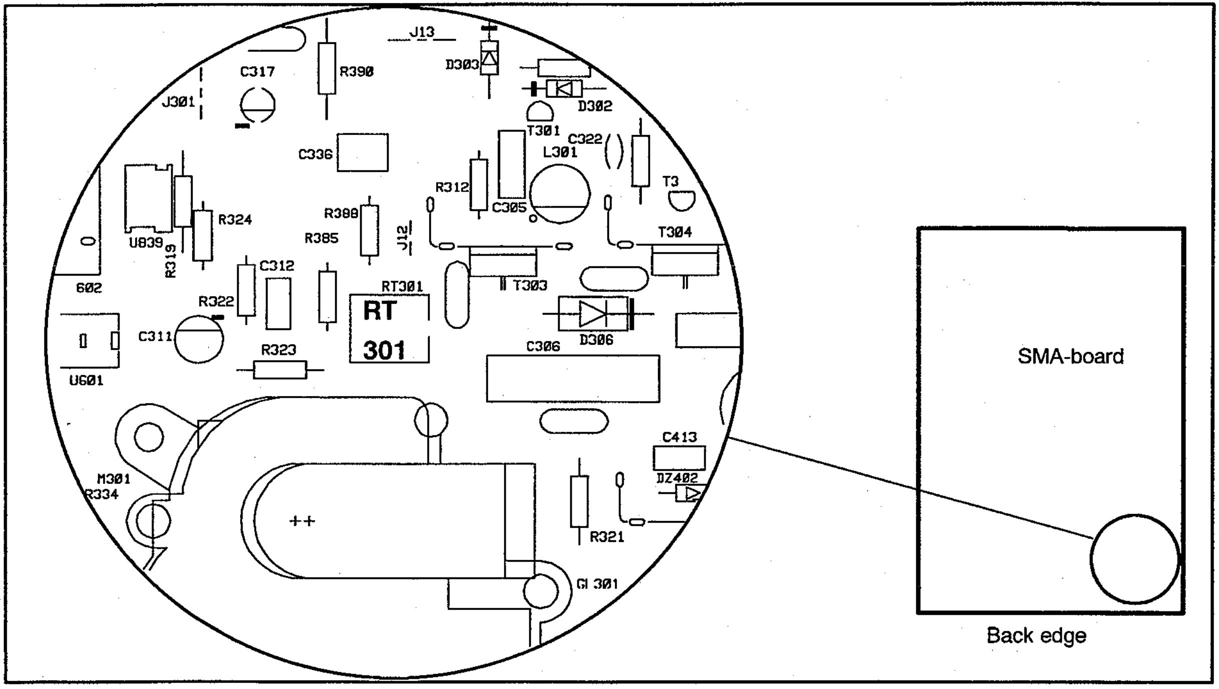
7.2.2. Operating Voltage

Connect the DVM to 190 v test point. Adjust trimmer **RT101** on SMA –board for a voltage of **190 ± 0.5 V.**


J4
M101
C102
J29
C104
C105
IC102
C113
J28
24
39
R148
C145
T112
C157
C
C147
Q506
IC103
RT101
C156
RT
101
C146
T115
J14
R147
R146
R149
D122
FR516
C319
R339
R145
C320
T336
R341
R392
R144
Q301
T339
J106
R391
SMA-board
Back edge
190 v test point

7.2.3. High Voltage

- Select 31.47kHz/60Hz (NCE300) crosshatch test pattern.
- Connect the high voltage meter to the anode of the picture tube.
- Adjust the high voltage to **27.0 ±0.3 kV** with **RT301** on SMA–board.


J13
C317
R390
D303
J301
D302
T301
C322
L301
C336
R312
T3
R324
R388
C305
U839
R385
J12
T304
R319
C312
602
R322
RT301
T303
RT
301
C311
R323
C306
D306
U601
SMA-board
C413
M301
R334
DZ402
++
R321
GI 301
Back edge

7.2.4. Preliminary Picture Adjustments

1) Select 107.1 kHz/85 Hz (GTF790) crosshatch test pattern.
2) Set ◑ to maximum and adjust ☼ until the background is faintly visible.
3) Adjust focus if poor.

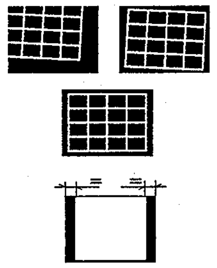
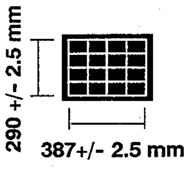
Remember

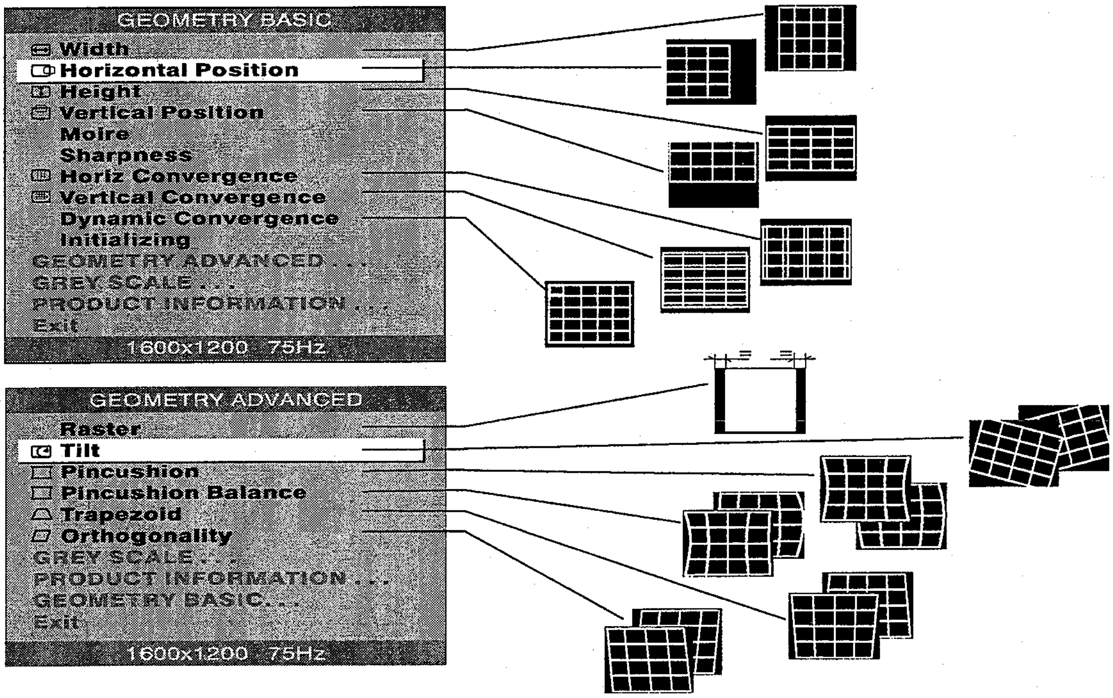
- Do not adjust **G2**–voltage with potentiometer or keypanel if you have reason to belive that there is no need to adjust gray scale.

7.3. Geometry

Activate Service Mode in 107.101kHz/85Hz (GTF790).

Degaussing must be carried out before the picture adjustments. Degaussing shall be repeated if the monitor is moved.

1) Select **107.1 kHz/85 Hz** (GTF790) crosshatch test pattern. Set ◑ to maximum and adjust ☼ until the background is faintly visible. Reduce width until both vertical edges of the **background** are visible. 2) Straighten the picture if tilted. This adjustment is common for all display modes. 3) Centre the background. This adjustment is common for all display modes.	
4) Adjust size, position and shape of the picture equal to the mask aperture. Adjust first the properties with largest deviation from the correct value. 5) Adjust final width and height.	 290 +/- 2.5 mm 387+/- 2.5 mm
6) Repeat steps 4) and 5) for every display mode to be stored. Note that the display mode can be changed without leaving the service mode.	


GEOMETRY BASIC
Width
Horizontal Position
Height
Vertical Position
Moire
Sharpness
Horiz Convergence
Vertical Convergence
Dynamic Convergence
Initializing
GEOMETRY ADVANCED . . .
GREY SCALE . . .
PRODUCT INFORMATION . . .
Exit
1600x1200 75Hz
GEOMETRY ADVANCED
Raster
Tilt
Pincushion
Pincushion Balance
Trapezoid
Orthogonality
GREY SCALE . . .
PRODUCT INFORMATION . . .
GEOMETRY BASIC . . .
Exit
1600x1200 75Hz

7.4. Grey Scale

The grey scale is adjusted for 9300K colour temperature.

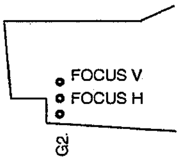
7.4.1. The Most Dominant Colour

The most dominant colour has been marked in a label on the deflection yoke. It may not be correct if tube or SMH card has been changed. In that case judge the most dominant colour from the tone of the picture after you have made the following adjustments.

1) Select **107.1 kHz/85 Hz** (GTF790) black test pattern.
2) Set ☼ to maximum and ◑ to minimum.
3) Set Blacklevel adjustment **RED/GREEN/BLUE Black Level** to 12% of the maximum.
4) Set **RED/GREEN/BLUE Amp** menu adjustments to center (50%).
5) Set **G2 menu** adjustment to center (50%).
6) Place the probe of the colour analyzer in the middle of the screen and adjust with **G2 trimmer** until the picture illuminance is 3±0.5 nit.

7.4.2. Low Light

1) Select **107.1 kHz/85 Hz** (GTF790) black test pattern.
2) Adjust picture illuminance to 1.0 nits with ☼ potentiometer.
3) Adjust the ◑ with potentiometer to the minimum.
4) Adjust the colour coordinates to (9300K)
   x = 0.283±0.020
   y = 0.298±0.020
   with **RED/GREEN/BLUE Black Level** adjustments.
   Do not adjust the most dominant colour.
   During the adjustments check if illuminance is changing over tolerance, when needed adjust it back. If x– and y– values are getting too far from the ideal values it's better to adjust both colours back to 10%. If any colour is going under 10% during adjustment, you have chosen wrong MOST DOMINANT COLOUR. Check the dominant colour again according to the instructions.
5) Set ☼ to the maximum and check that the illuminance is still 3±0.5 nits. If not, repeat 6.4.1. steps 5) and 6).
6) Adjust picture illuminance to 1.0 nits with ☼ potentiometer and check the colour coordinates.



Left side view of the chassis

7.4.3. High Light

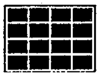
1) Select **107.1 kHz/85 Hz** (GTF790) black test pattern.
2) Adjust with ☼ the picture illuminance to 1±0.5 nits.
3) Select 107.1 kHz/85 Hz window test pattern.
4) Adjust with ◑ the picture illuminance in the window to 70±5 nits.
5) Adjust with **RED/BLUE Amp** the colour coordinates in the window to
   x = 0.283±0.020
   y = 0.298±0.020
   Check after adjustment that the illuminance reading is in limits.

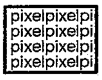
7.5. Maximum/Minimum Contrast

1) Set ◑ to the maximum.
2) Adjust with ☼ potentiometer the picture illuminance outside window to 0.5 nits or its maximum position.
3) Adjust illuminance in the window to 145±5 nits with **MAX CONTRAST**.
4) Set ◑ to the minimum.
5) Check that the minimum illuminance is between 10 and 25 nits.
6) Exit from service mode.

6.6. Focus

1) Select **107.1 kHz/85 Hz** (GTF790) crosshatch test pattern
2) Set ◑ to the maximum and adjust ☼ until the background is faintly visible
3) Adjust the sharpness with **FOCUS H** and **FOCUS V** to optimum
4) Adjust ☼ until the background is invisible
5) Select focus test pattern. Check that all letters are clearly visible





6.7. Convergence

Reduce first the convergence error in the middle of the screen to minimum using static adjustments. After the convergence is faultless in the middle of the tube, use dynamic adjustments to eliminate the error in the edges of the tube.

Static adjustments affects the whole picture area:

- Service mode Convergence menu adjustments (horizontal + vertical).
- Magnet ring set on the tube neck (horizontal + vertical)

Dynamic adjustments affects a part of the picture area:

- Service mode Dynamic Convergence menu adjustments.
- Deflection yoke trimmers.

6.7.1. Measuring Conditions

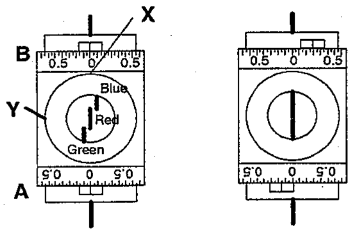
- Adjust convergence with 107.1 kHz (GTF790) line frequency
- Make sure that focus is correctly set at the mid-point between the screen center and the edge of the picture.
- Use white crosshatch test pattern with circle.
- Adjust ◑ to near the maximum and reduce ☼ until the background disappears.

6.7.2. Convergence Measuring Gauge CM7AR

The use of the Klein CM7AR Convergence Gauge has been explained here but other types of gauges can be used as well.

Check that the adjusting knobs (A & B) are set to zero.

- Place the gauge on the line with marking **Y up** upwards when measuring horizontal line.
- Place the gauge on the line with marking **X up** upwards when measuring vertical line.
- If the line has convergence error, the line in the window seems to be broken.
- Use knobs A and B to adjust the line continuous.
- If the readings are on the opposite side of zero, the convergence error is A+B (e.g. 0.2 + 0.1 = 0.3).
- If the readings are on the same side of zero, the convergence error is equal to A if A > B or B if B > A

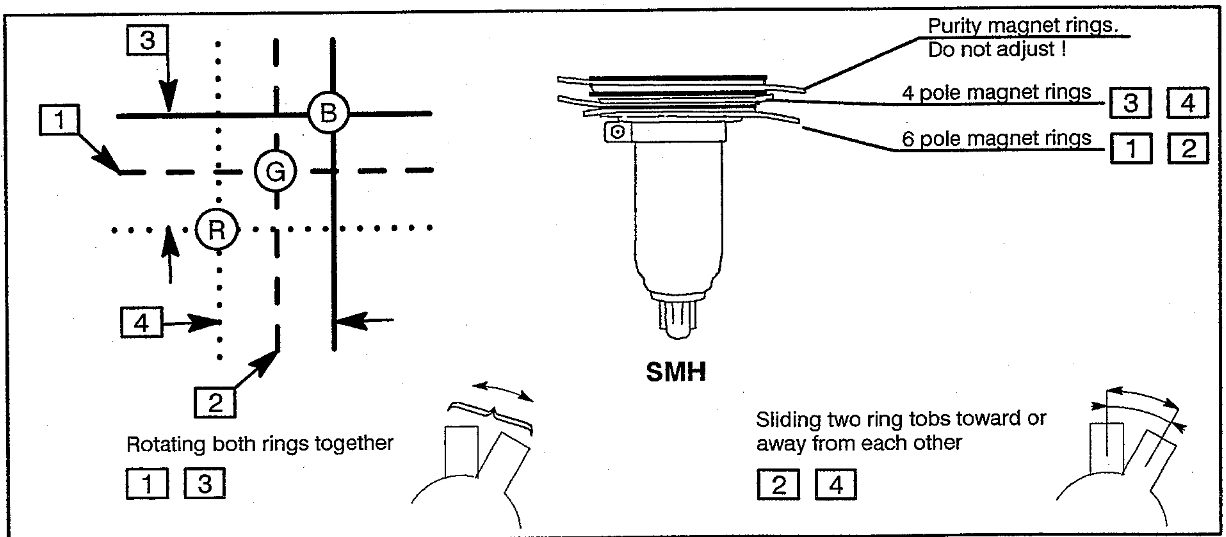


6.7.3. Static Convergence

The magnet rings has been set to the optimum in the factory. Readjustment is necessary only in case the adjusting magnets have been accidentally moved.

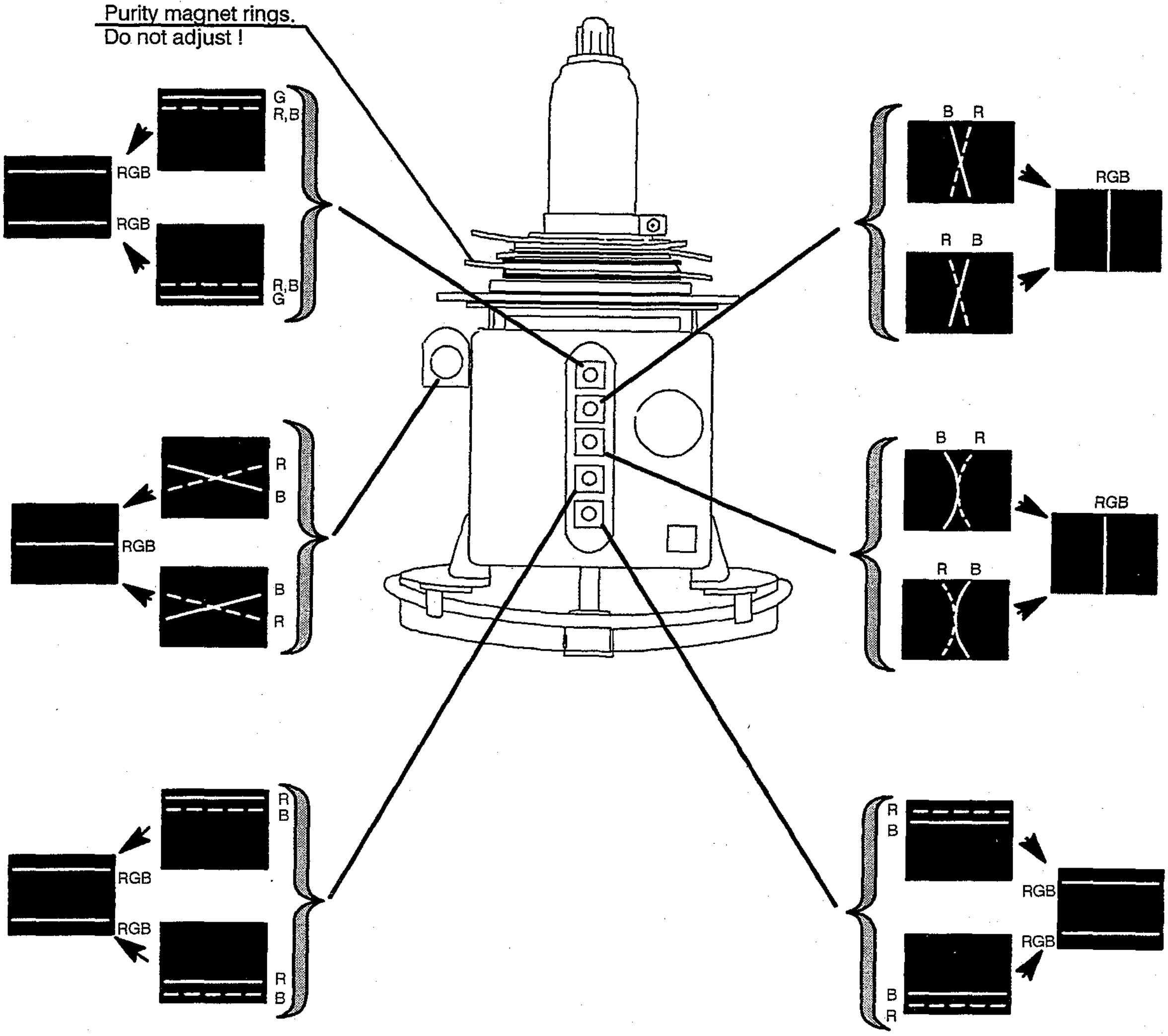
$\boxed{1}$ Adjust G vertically in the middle between R and B with 6 pole magnet rings.
$\boxed{2}$ Adjust G horizontally in the middle between R and B with 6 pole magnet rings.
$\boxed{3}$ Adjust R and B vertically to the same position with G line with 4 pole magnet rings
$\boxed{4}$ Adjust R and B horizontally to the same position with G line with 4 pole magnet rings

Lock the rings with paint

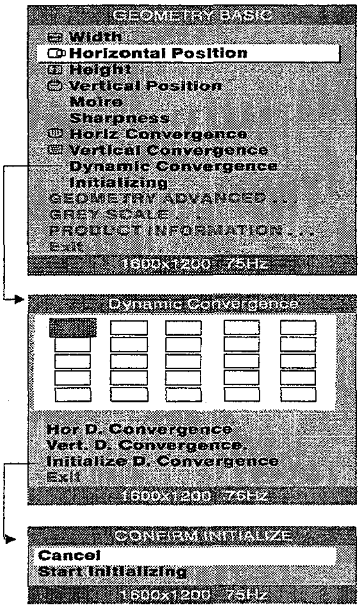


6.7.4 Dynamic Convergence

Deflection yoke trimmers



Purity magnet rings.
Do not adjust !
G
R,B
RGB
RGB
R,B
G
B R
RGB
R B
R
B
RGB
B
R
B R
RGB
R B
R
B
RGB
RGB
R
B
R
B
RGB
RGB
B
R


GEOMETRY BASIC
Width
Horizontal Position
Height
Vertical Position
Moire
Sharpness
Horiz Convergence
Vertical Convergence
Dynamic Convergence
Initializing
GEOMETRY ADVANCED ...
GREY SCALE ...
PRODUCT INFORMATION ...
Exit
1600x1200 75Hz
Dynamic Convergence
Hor D. Convergence
Vert. D. Convergence.
Initialize D. Convergence
Exit
1600x1200 75Hz
CONFIRM INITIALIZE
Cancel
Start Initializing
1600x1200 75Hz

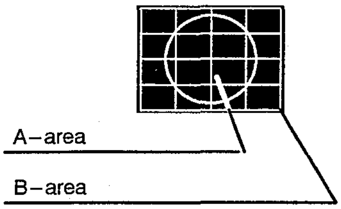
Dynamic Convergence Menu adjustments

Active the service mode as explain in 4.2.1.

1) Select Dynamic Convergence in Geometry Basic Submenu with the Menu wheel.
2) Select the position which you want to adjust with the Menu wheel.
3) Push the Menu wheel.
4) Select direction with the Menu wheel.
5) Push the Menu wheel.
6) Adjust Dynamic Convergence.

Dynamic Convergence adjustments affect only to the selected location of the 5 x 5 crosshatch picture.

Initializing the Dynamic Convergence sets all the Dynamic Convergence adjustments to the centre position.


A–area
B–area

6.7.5 Allowed Error Levels for Convergence

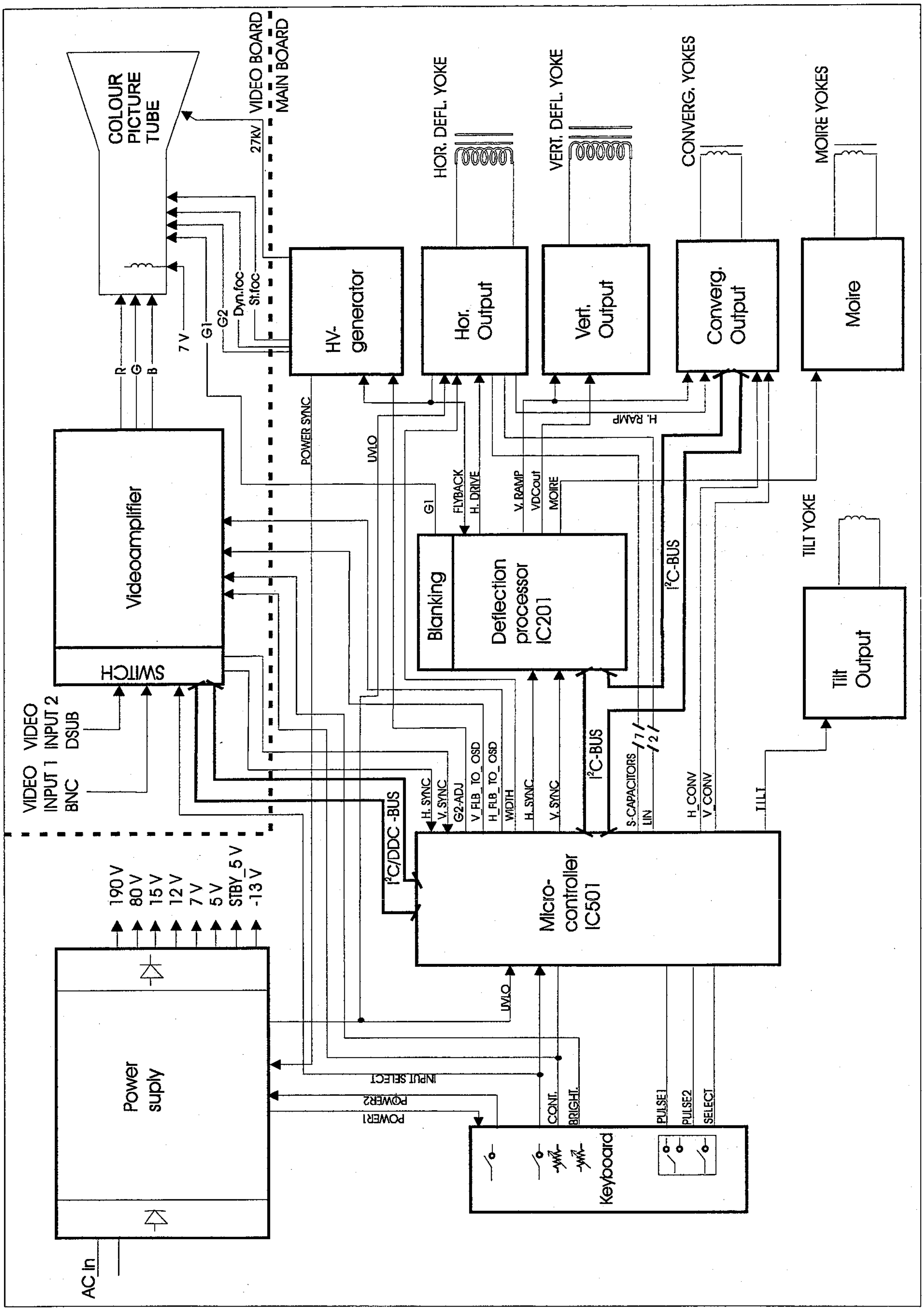
Area A: ≤0.2 mm

Area B: ≤0.3 mm

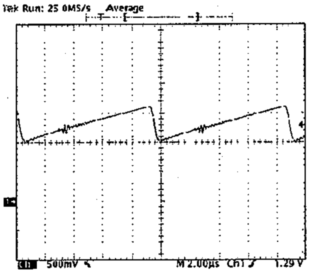
6.8. Colour Purity

Do not move purity magnet rings. If the purity magnet rings are found to have moved during transportation or handling, set them just in the original position by tracing the locking paint put on purity magnet rings and holder of beam bender and then readjust the static convergence.

BLOCK DIAGRAM


COLOUR PICTURE TUBE
VIDEO BOARD
MAIN BOARD
27KV
HOR. DEFL. YOKE
VERT. DEFL. YOKE
CONVERG. YOKES
MOIRE YOKES
HV-generator
Hor. Output
Vert. Output
Converg. Output
Moire
R
G
B
7 V
G1
G2
Dyn.foc
St.foc
POWER SYNC
UVLO
H. RAMP
G1
FLYBACK
H. DRIVE
V. RAMP
VDCout
MOIRE
Videoamplifier
SWITCH
Blanking
Deflection processor IC201
I²C-BUS
TILT YOKE
Tilt Output
VIDEO INPUT 1 BNC
VIDEO INPUT 2 DSUB
I²C/DDC -BUS
H. SYNC
V. SYNC
G2-ADJ
V_FLB_TO_OSD
H_FLB_TO_OSD
WIDTH
H. SYNC
V. SYNC
I²C-BUS
S-CAPACITORS
LIN
1
2
H_CONV
V_CONV
TILT
Micro-controller IC501
190 V
80 V
15 V
12 V
7 V
5 V
STBY_5 V
-13 V
Power suply
UVLO
INPUT SELECT
POWER2
POWER1
CONT.
BRIGHT.
PULSE1
PULSE2
SELECT
Keyboard
AC In

1



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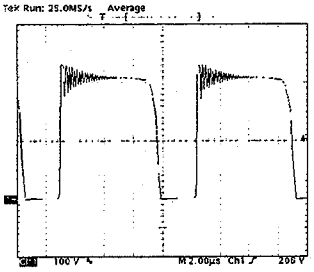
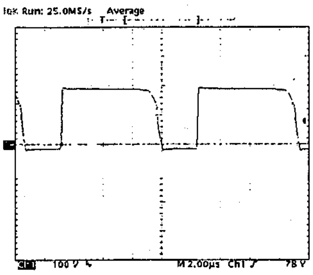


3



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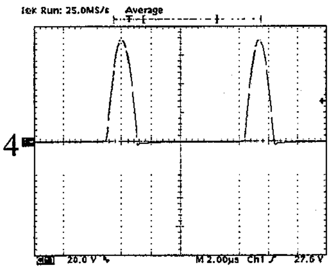
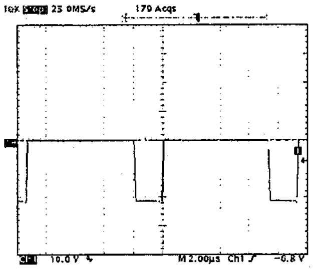
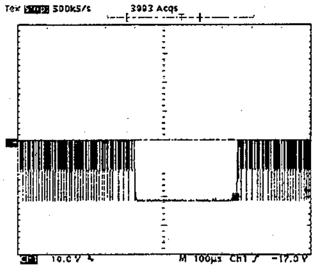


5



6



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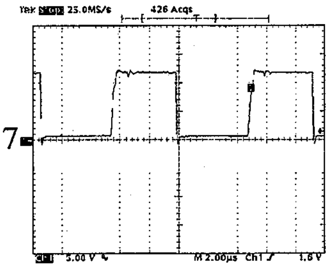

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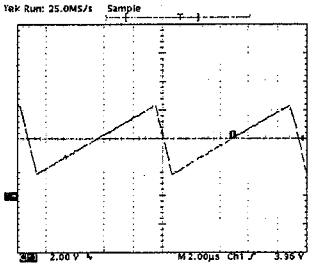

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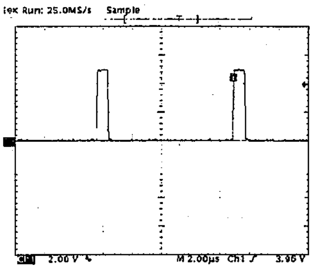
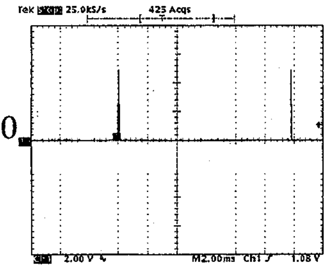


10



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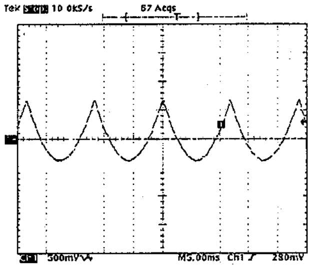

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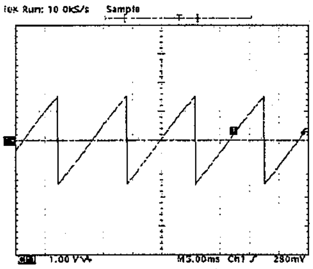
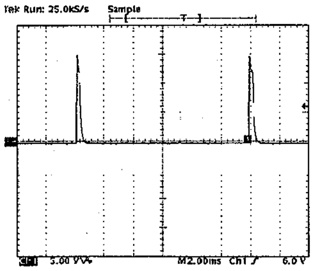
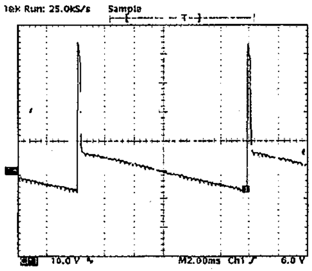


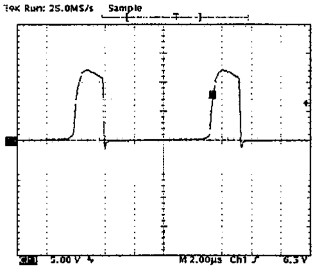
13



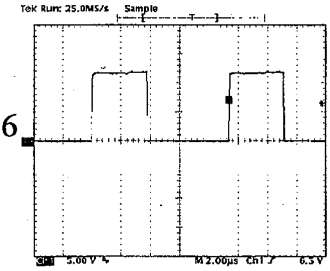
14



15



16



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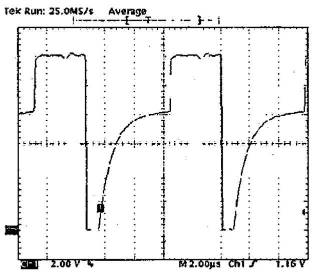

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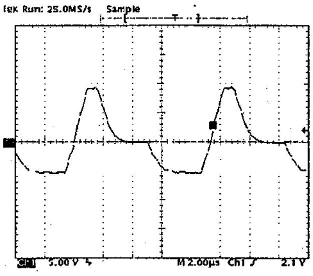

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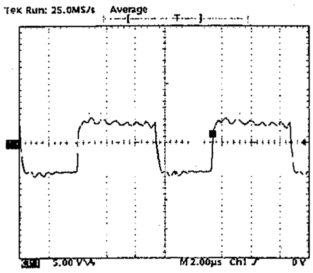

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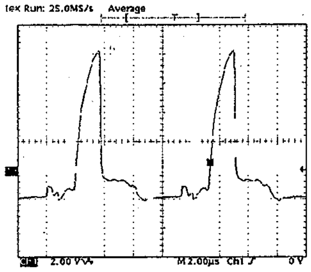

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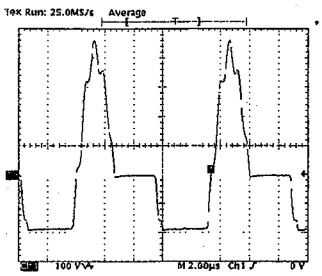
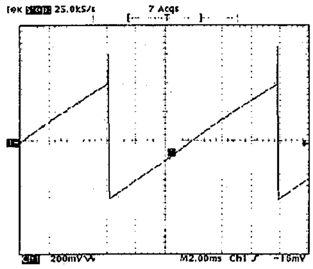


22



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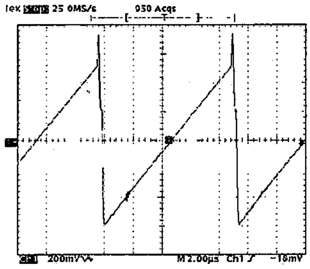

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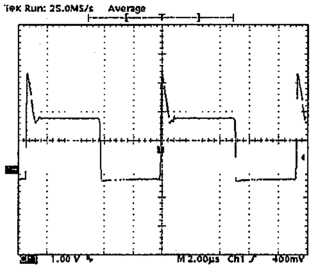

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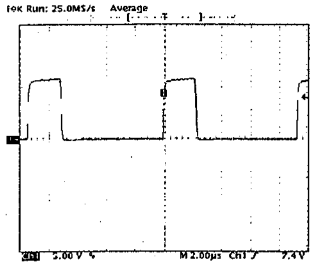

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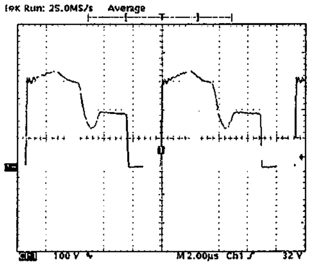

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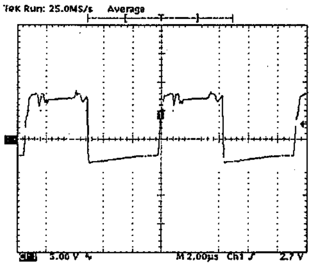

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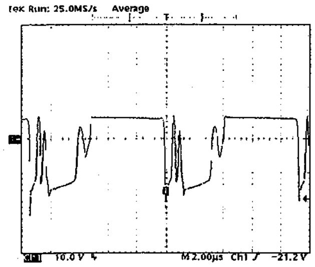

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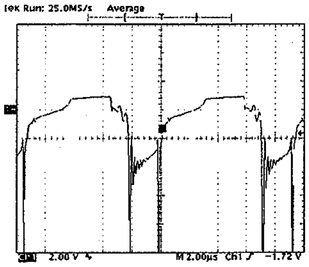

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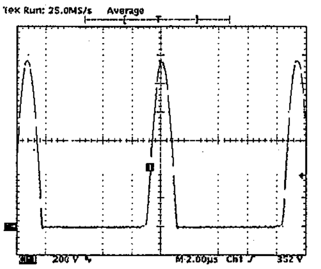

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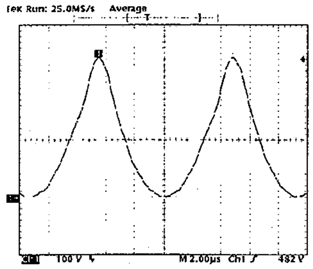

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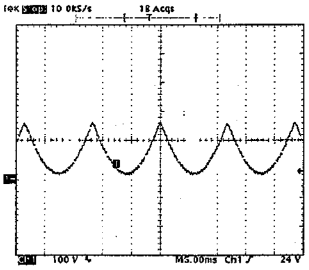

*100 x probe

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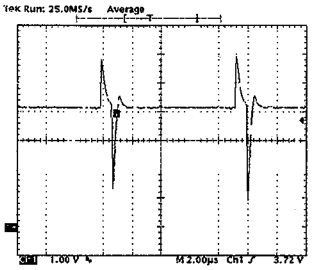

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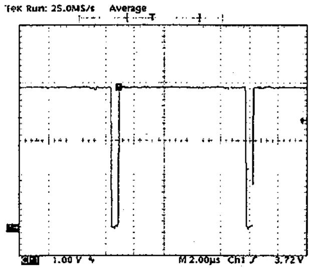

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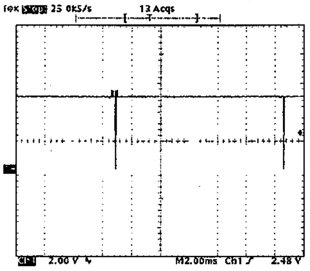

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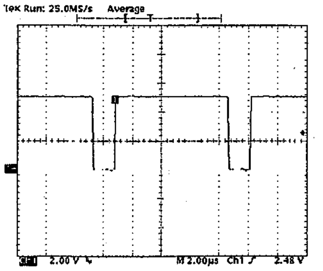
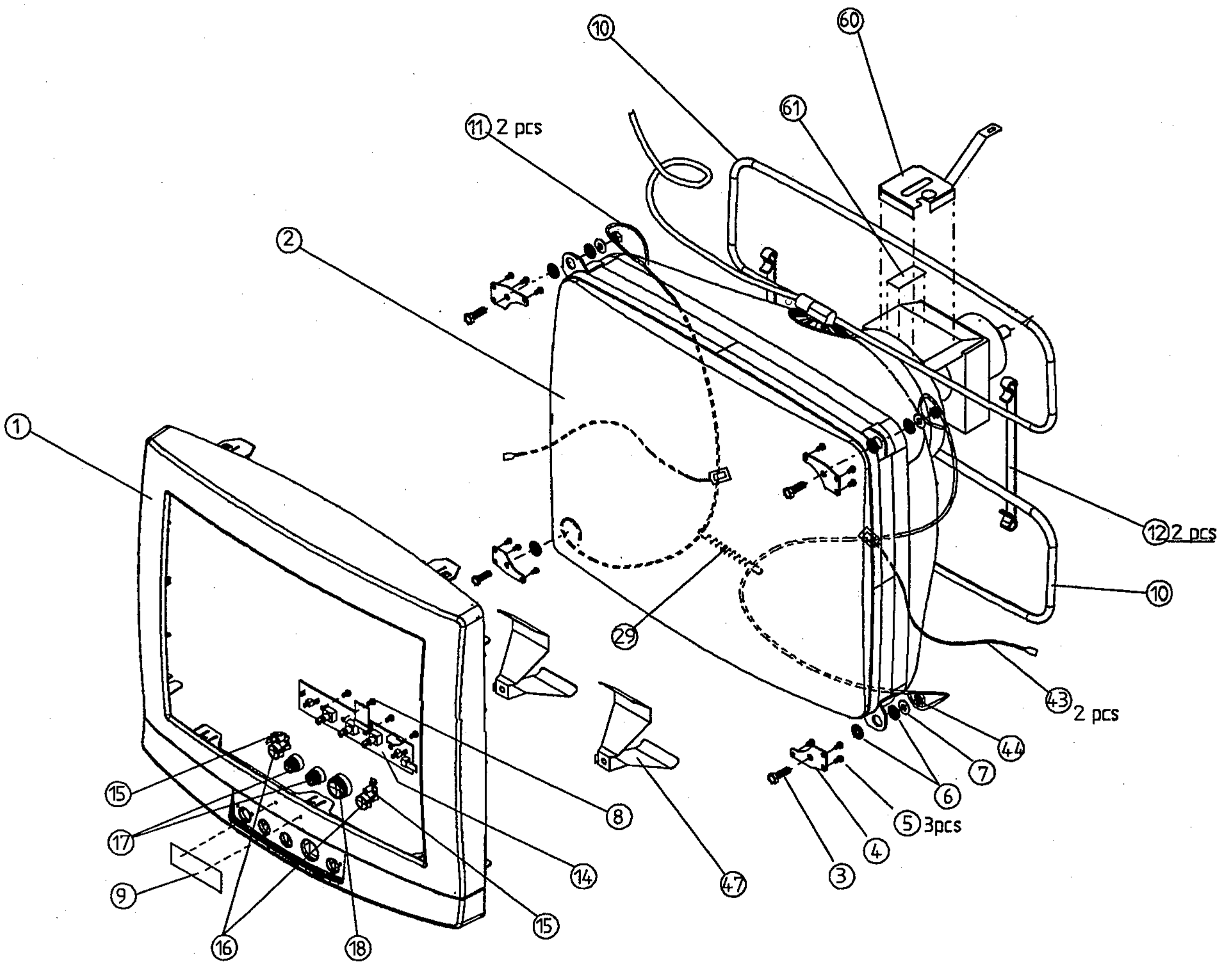
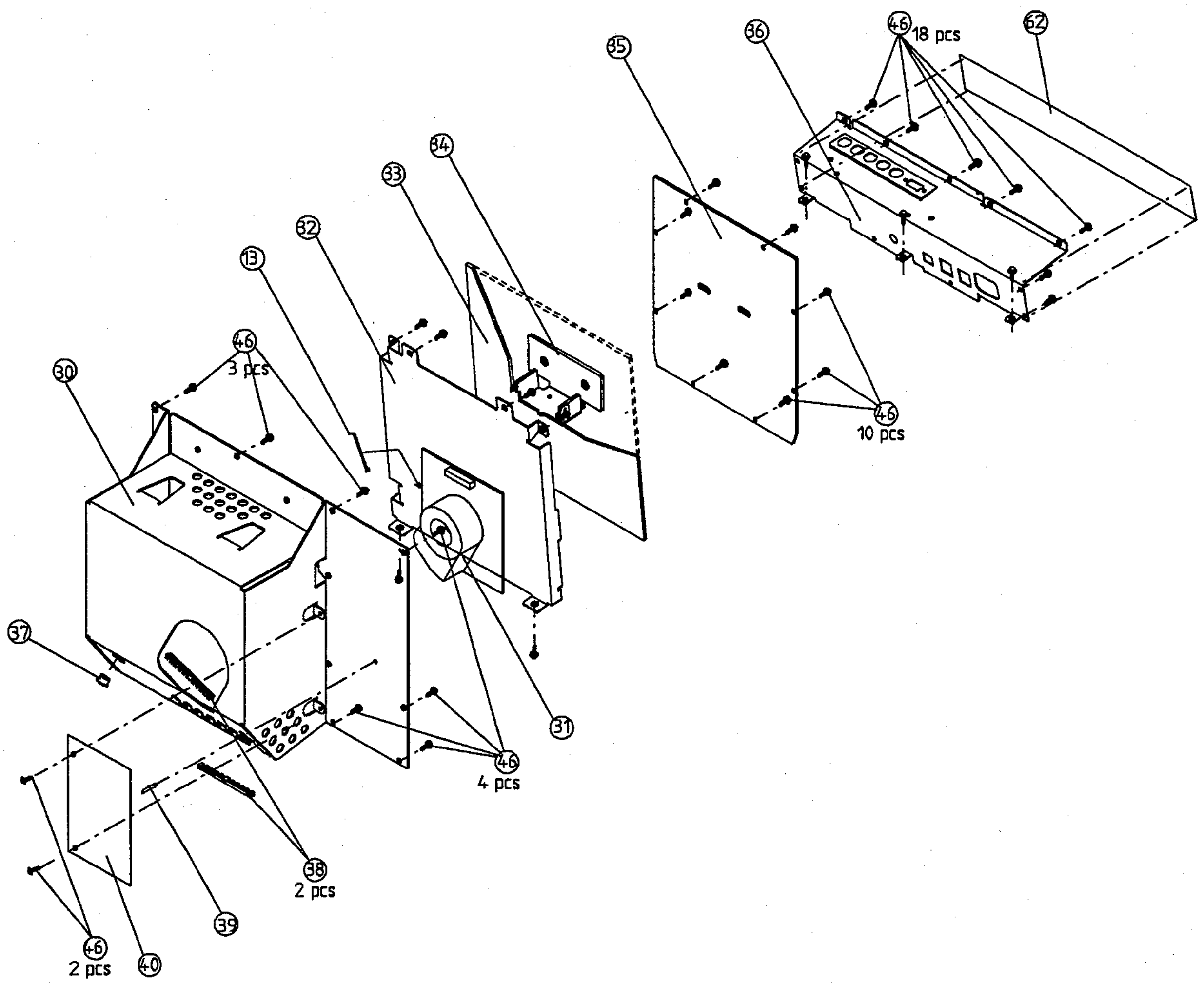


Spare Parts

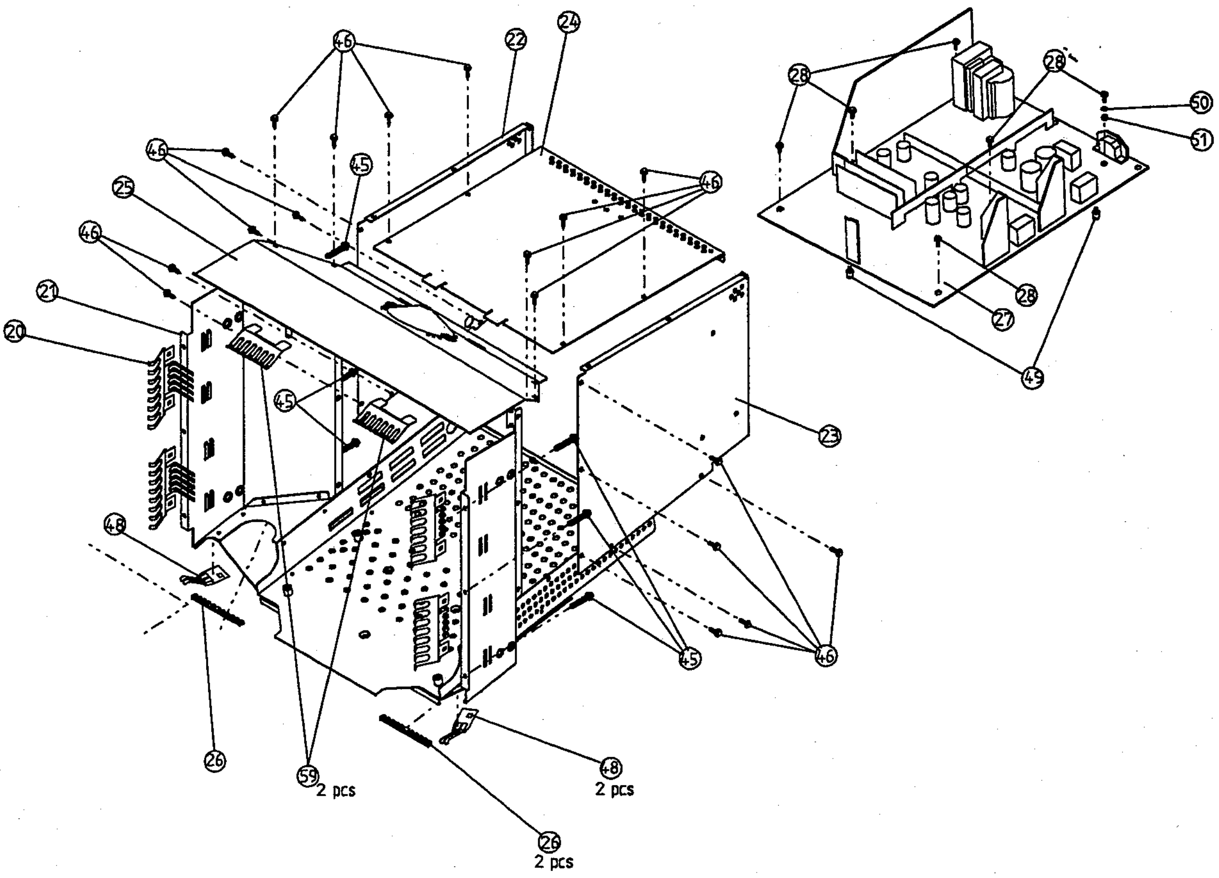
P/N	Description	Emission	Prod P/N
445Xpro	21“ NOKIA ROOSTER EU	TCO	445T051
445Xpro	21” NOKIA ROOSTER FULLSCREEN EU	TCO	445T053
445Xpro	21” NOKIA ROOSTER USA	TCO	445T059
445Xpro	21“ NOKIA ROOSTER USB EU	TCO	445T251
445Xpro	21” NOKIA ROOSTER FULLSCREEN USB EU	TCO	445T253
445Xpro	21” NOKIA ROOSTER USB USA	TCO	445T259
445Xpro	21“ NOKIA 125 kHz USB EU	TCO	445T351
445Xpro	21” NOKIA 125 kHz FULLSCREEN USB EU	TCO	445T353
445Xpro	21” NOKIA 125 kHz USB USA	TCO	445T359



Item no	Decsription	Code	PG	Model
01	Bezel 21" DN40425	UM7630A	29	051 059 251 259 351 359
01	Bezel 19.7" DN40425	UM7740A	30	053 253 353
02	Picture Tube CDT M51LCJ183X25(F)	NM1024	73	
06	Friction plate	UL0137	02	
07	Washer M6X18X1,6	WL0175	01	
08	Screw	WC0371	01	
09	Badge NOKIA	UA1243	08	
10	Demagn.coil 21	FD0216	25	
11	Grounding wire	SE2664	08	
12	Degaussing coil holder	UG1022	03	
14	Control module (included in SMA193)	SMZ053	*	
15	Light pipe group	UA7108	03	
16	Button	UT1832	03	
17	Knob, small	UT1831	07	
18	Knob, big	UT1830	08	
43	Grounding wire	SE2651	06	
44	Nuloc nut	WJ0171	01	
47	Grounding spring	UC6902	04	
60	Grounding shield	UC6903	03	



Item no	Decsription	Code	PG	Model
30	Video box	UC6888	20	
31	Crt–module (included in SMY)	SMH144	*	
32	Tube socket shield	UC6890	06	
33	Video amplifier	SMY039	48	
34	Heat sink	UC6891	07	
35	Rear plate	UC6892	12	
36	Connector panel	UC6889	08	051 053 059
36	Connector panel USB	UC6950	08	251 253 259 351 353 359
37	Snap bushing	UG0591	04	
39	Mini support	UG1002	03	251 253 259 351 353 359
40	USB board	SMY040	31	251 253 259 351 353 359
46	Hexagon torx10 tapping screw 3.5x9.5 Zn	WC0036	01	251 253 259 351 353 359
62	Connector label	ZZ2800	02	
62	Connector label USB	ZZ2854	02	251 253 259 351 353 359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2 pcs
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2 pcs
26
2 pcs
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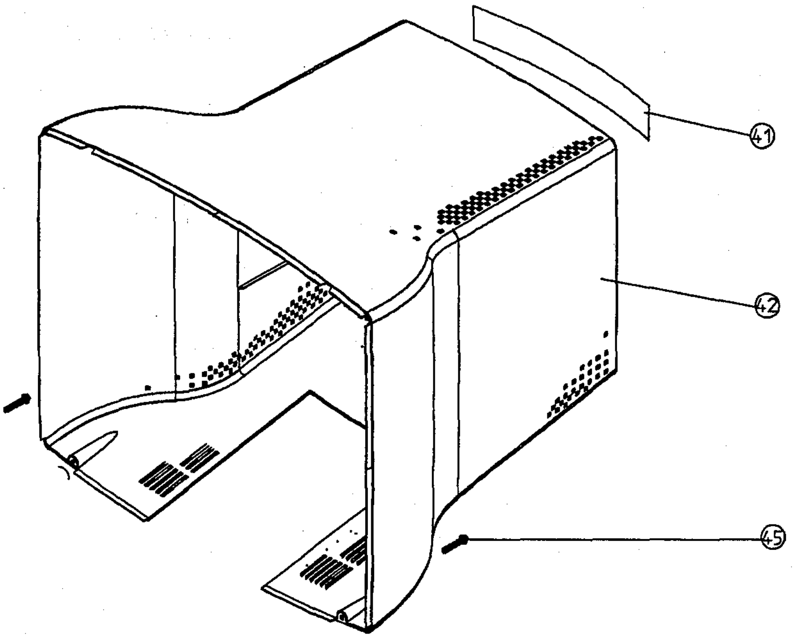
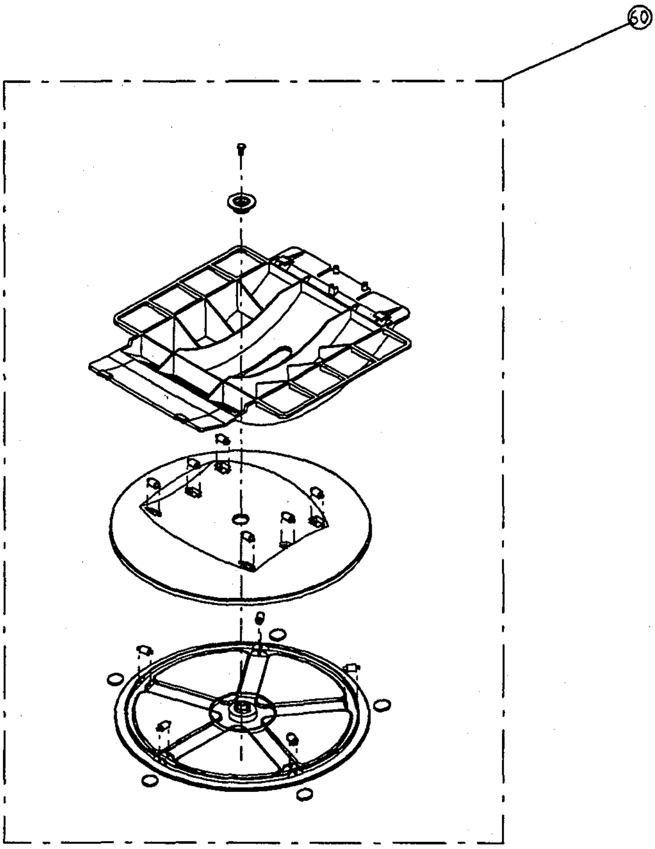
Item no	Decsription	Code	PG	Model
20	Grounding spring, side	UC6900	04	
21	Frame assy	UC6827	33	
22	Side plate, left	UC6825	17	
23	Side plate, right	UC6824	17	
24	Cover	UC6826	17	
25	Support (upper)	UC6832	15	
26	Insulator	UG0812	04	
27	Main board	SMA224	61	051 053 059
27	Main board USB	SMA225	61	251 253 259 351 353 359
28	M4X8 8.8	WA0749	01	
45	Pt-screw KB 40X20	WC0354	01	
46	Hex plate screw	WC0036	01	
48	Grounding spring	UC6898	03	
49	Supportpin	UG0778	01	
50	Washer	WL0217	01	
51	Washer	UC6781	04	





Item no	Decsription	Code	PG	Model
41	Type label 445T	ZZ2817	10	
42	Rear cover	UD0430	32	
45	Pt–screw KB 40X20	WC0354	01	
60	Stand assembly	UDX047	30	

Item no	Decsription	Code	PG	Model
Cables:				
	Mains Cable 3x18AWG L=1,8m	QM0049	18	059 259 359
	Power cord 3*1,0mm2 L=2,5M GREY	QM0028	18	051 053 251 253 351 353
	Signal cable VGA–51	QM0300	25	
	USB cable L=2M Full Rate Gr	QM0170	14	251 253 259 351 353 359
Packing materials:				
	Side cushion Bottom	ZA5011	16	
	Side cushion Top	ZA5010	15	
	Addition support	ZA2506	13	
	Packing box 21	ZA2528	16	
	Users guide Nokia GE IT SW FI	ZF4531	09	051 053
	Plasticpag 230x320	ZA0453	02	
Documents:				
	Users guide Nokia GE IT SW FI	ZF4531	09	051 053 251 253 351 353
	Users guide Nokia EN FR SP	ZF4530	09	
	TCO95 Leaflet	ZF5737	02	
	USB Leaflet	ZF5769	03	251 253 259 351 359 359
	Warranty Card NOKIA USA Dallas	ZF5812	03	059 259 359
	Nokia monitor setup Win95	ZK0008	08	
	Nokia Displayware CD	ZF0020	12	251 253 259 351 353 359
Adapters:				
	Multimode MacAdapter	QK1518	17	059 259 359

Part Number	Description	PG	Item Number
AA0633	CF RES 0W25 22R J 2,5-7	01	RA 150 151 152 350 353 358 361 336 206
AA0641	CF RES 0W25 47R J 2,5-7	01	RA 236
AA0649	CF RES 0W25 100R J 2,5-7	01	RA 569 577 580 581 374 377
AA0651	CF RES 0W25 120R J 2,5-7	01	RA 337
AA0657	CF RES 0W25 220R J 2,5-7	01	RA 225 322 346 348
AA0665	CF RES 0W25 470R J 2,5-7	01	RA 147 431
AA0673	CF RES 0W25 1K0 J 2,5-7	01	RA 148 329 395 396 342 398 420 429
AA0673	CF RES 0W25 1K0 J 2,5-7	01	RA 129 209 223
AA0681	CF RES 0W25 2K2 J 2,5-7	01	RA 380 381 514 559
AA0685	CF RES 0W25 3K3 J 2,5-7	01	RA 411
AA0687	CF RES 0W25 3K9 J 2,5-7	01	RA 430
AA0689	CF RES 0W25 4K7 J 2,5-7	01	RA 378 542 543 544 545 546 547 583 303 382
AA0689	CF RES 0W25 4K7 J 2,5-7	01	RA 212 234 435 512
AA0697	CF RES 0W25 10K J 2,5-7	01	RA 216 401 421 450
AA0699	CF RES 0W25 12K J 2,5-7	01	RA 505
AA0705	CF RES 0W25 22K J 2,5-7	01	RA 573 230
AA0711	CF RES 0W25 39K J 2,5-7	01	RA 556
AA0721	CF RES 0W25 100K J 2,5-7	01	RA 459
AA0723	CF RES 0W25 120K J 2,5-7	01	RA 449
AA0725	CF RES 0W25 150K J 2,5-7	01	RA 324 448
AA0729	CF RES 0W25 220K J 2,5-7	01	RA 414
AA0737	CF RES 0W25 470K J 2,5-7	01	RA 439 221
AA0745	CF RES 0W25 1M0 J 2,5-7	01	RA 440 441
AA0754	CF RES 0W25 2M2 J 2,5-7	01	RA 385 388
AA0755	CF RES 0W25 2M7 J 2,5-7	01	RA 390
AA0761	CF RES 0W25 4M7 J 2,5-7	01	RA 102 103 334 229
AB0609	NF RES 0W25 2R2 J 2,5-7 CF	01	RA 281
AB0625	NF RES 0W25 10R J 2,5-7 CF	01	RA 127
AB0649	NF RES 0W25 100R J 2,5-7 CF	01	RA 125
AB0795	NF RES 0W5 0R56 J 4-11 CF	02	RA 130 131 132 153 405 406
AC3366	CHIPRES 5K90 0W1 1% 0805	01	RA 272 277
AC3388	CHIPRES 10K0 0W1 1% 0805	01	RA 270
AC4409	CHIPRES 0W1 2R2 5% 0805 2013	01	RA 202
AC4425	CHIPRES 0W1 10R 5% 0805 2013	01	RA 407 427 442 443 222
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	01	RA 344
AC4433	CHIPRES 0W1 22R 5% 0805 2013	01	RA 309 310 316
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RA 164 305 417 422 452 453 454 455 456 457
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RA 458 527 340
AC4455	CHIPRES 0W1 180R 5% 0805 2013	01	RA 347 355 371
AC4457	CHIPRES 0W1 220R 5% 0805 2013	01	RA 155 317 354 356 370 372 526
AC4465	CHIPRES 0W1 470R 5% 0805 2013	01	RA 154 156 232 349 352 357 360 365 368
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AC4467	CHIPRES 0W1 560R 5% 0805 2013	01	RA 521
AC4471	CHIPRES 0W1 820R 5% 0805 2013	01	RA 451
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	RA 109 141 157 161 210 326 404 108 548
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	RA 528 531 549 118 425
AC4479	CHIPRES 0W1 1K8 5% 0805 2013	01	RA 217
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RA 128 158 167 121 306 314 327 418 552
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AC4483	CHIPRES 0W1 2K7 5% 0805 2013	01	RA 536 537 538 539 540 541 582
AC4485	CHIPRES 0W1 3K3 5% 0805 2013	01	RA 574
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RA 133 237 304 313 444 445 218 120
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RA 530 532 535
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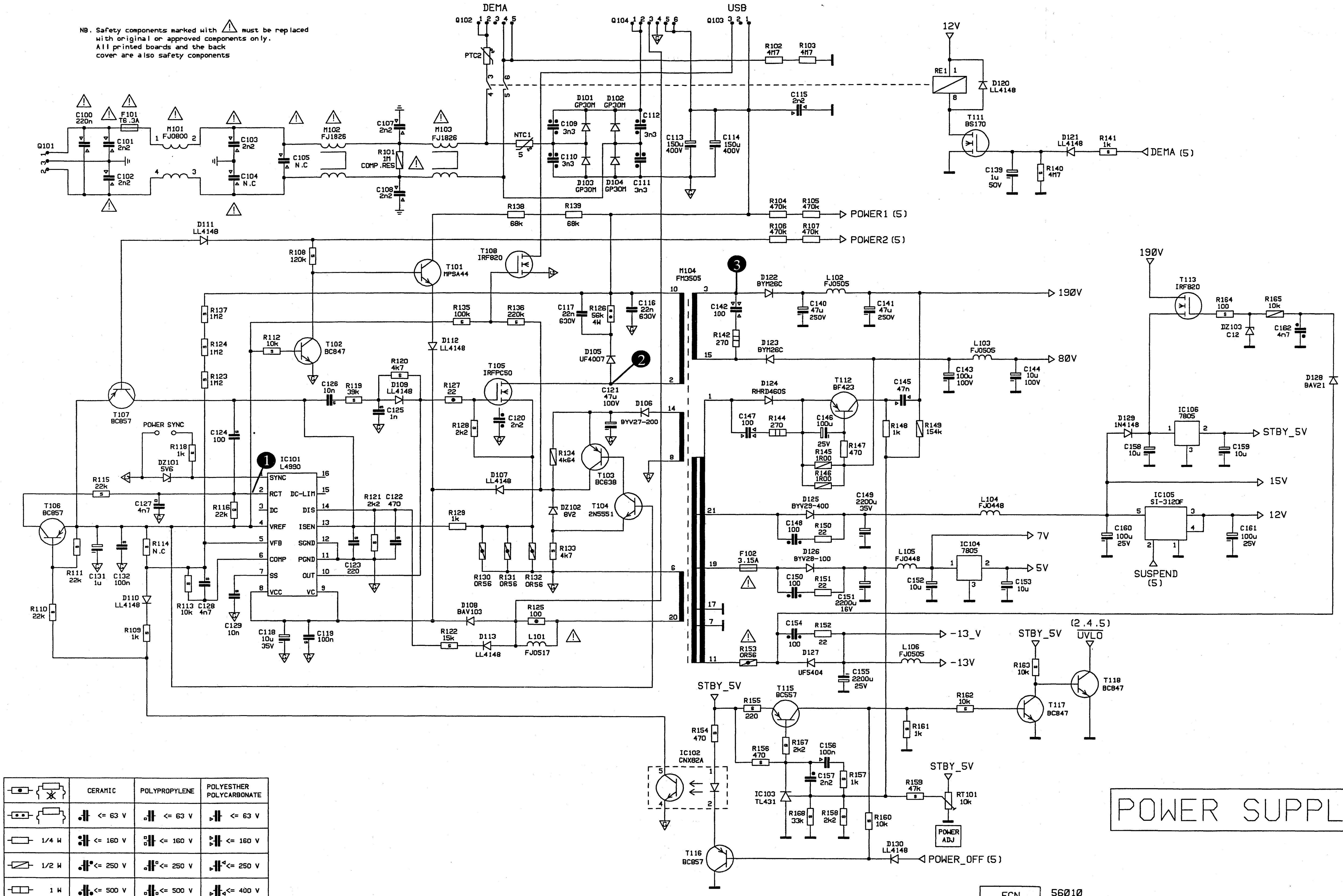
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA 113 160 162 163 165 224
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA 226 510 201 301 302 311 328
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA 330 331 384 403 426 460 567 576
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA 584 501 205 408 504 554 211
AC4501	CHIPRES 0W1 15K 5% 0805 2013	01	RA 122 520
AC4505	CHIPRES 0W1 22K 5% 0805 2013	01	RA 110 111 116 115 231 393 399 517
AC4505	CHIPRES 0W1 22K 5% 0805 2013	01	RA 402 410 233 409 235
AC4509	CHIPRES 0W1 33K 5% 0805 2013	01	RA 168
AC4511	CHIPRES 0W1 39K 5% 0805 2013	01	RA 416
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	RA 203 208 159 558 386 387 502 503 519
AC4517	CHIPRES 0W1 68K 5% 0805 2013	01	RA 392
AC4519	CHIPRES 0W1 82K 5% 0805 2013	01	RA 335
AC4521	CHIPRES 0W1 100K 5% 0805 2013	01	RA 412 413 518 525
AC4525	CHIPRES 0W1 150K 5% 0805 2013	01	RA 119
AC4529	CHIPRES 0W1 220K 5% 0805 2013	01	RA 112 228
AC4537	CHIPRES 0W1 470K 5% 0805 2013	01	RA 227 522 394 515 516 561
AC4547	CHIPRES 0W1 1M2 5% 0805 2013	01	RA 123 124
AC4549	CHIPRES 0W1 1M2 5% 0805 2013	01	RA 137
AC4553	CHIPRES 0W1 2M2 5% 0805 2013	01	RA 389
AC4561	CHIPRES 0W1 4M7 5% 0805 2013	01	RA 123 124 140 214 383
AC4569	CHIPRES 0W1 10M 5% 0805 2013	01	RA 533
AD0349	COMPRES 0W5 100R K 4-11	01	RA 321
AD0373	COMPRES 0W5 1K0 K 4-11	01	RA 332
AD0397	COMPRES 0W5 10K K 4-11	01	RA 333
AD0407	COMPRES 0W5 27K K 4-11	01	RA 104 106
AD0407	COMPRES 0W5 27K K 4-11	01	RA 105 107
AD0445	COMPRES 0W5 1M0 K 4-11	01	RA 101
AG3101	MF RES 0W5 1R00 F TC200 2,5-7	01	RA 145 146 279 432
AB0785	NF RES 0W5 0R22 J 4-11 CF	02	RA 318
AG3119	MF RES 0W5 1R54 F TC200 2,5-7	01	RA 424
AG3133	MF RES 0W5 2R15 F TC200 2,5-7	01	RA 423 462
AG3165	MF RES 0W5 4R64 F TC200 2,5-7	01	RA 434
AG3233	MF RES 0W5 21R5 F TC50 2,5-7	01	RA 437
AG3273	MF RES 0W5 56R2 F TC50 2,5-7	01	RA 315
AG3343	MF RES 0W5 274R F TC50 2,5-7	01	RA 280
AG3433	MF RES 0W5 2K15 F TC50 2,5-7	01	RA 343
AG3465	MF RES 0W5 4K64 F TC50 2,5-7	01	RA 134 446 447
AG3473	MF RES 0W5 5K62 F TC50 2,5-7	01	RA 345
AG3477	MF RES 0W5 6K19 F TC50 2,5-7	01	RA 204
AG3489	MF RES 0W5 8K25 F TC50 2,5-7	01	RA 307
AG3501	MF RES 0W5 10K0 F TC50 2,5-7	01	RA 271 338
AG3519	MF RES 0W5 15K4 F TC50 2,5-7	01	RA 461
AG3525	MF RES 0W5 17K8 F TC50 2,5-7	01	RA 339
AG3557	MF RES 0W5 38K3 F TC50 2,5-7	01	RA 308
AG3609	MF RES 0W5 121K F TC50 2,5-7	01	RA 323
AG3619	MF RES 0W5 154K F TC50 2,5-7	01	RA 149
AG3643	MF RES 0W5 274K F TC50 2,5-7	01	RA 415
AJ2523	MO RES 2W0 10R J 6-17	02	RA 428
AJ2763	MO RES 2W0 100R J 6-17	02	RA 351 359 367 375 436
AJ2863	MO RES 2W0 270R J 6-17	02	RA 142 144
AJ3425	MO RES 4W0 56K J 9-22	03	RA 126
AQ2214	TPMET.AA H10 1K0 RM 5X10 6-HOLE	03	RTA 401
AQ2347	TPMET. H10 10K RM 5X10 6-HOLE	04	RTA 101
AQ2219	TPMET.AA H10 47K RM 5X10 6-HOLE	03	RTA 301
AW0079	PTC-THERMISTOR 18R/25'C RM5	07	PTCA 002
AW0111	NTC-THERMISTOR 5R0/25'C RM5+2,5	07	NTCA 001
QH0065	RELAY PCB-MOUNTING 12V 5A/250V	12	REA 001
CA0324	CERCAP Y5P 100P K 1KV Y5 D8 L	02	CA 148 150 154 323 424 425 446
CB0418	CERCAP N150 22P J 500V Y5: D8	01	CA 532
CC0170	CERCAP Y5P 470P K 500V Y5: D8	01	CA 419
CC0240	CERCAP Y5P 2N2 K 500V Y5: D9	01	CA 120 157 318 322 426
CC0513	CERCAP Y5V 3N3 S 1KV Y7,5 D14	02	CA 109 110 111 112 410
CC0530	CERCAP Z5U 4N7 S 500V Y5: D9	01	CA 162
CC0772	CERCAP Z5V 10N Z 50V Y5: D8	01	CA 334
CE0081	X2-CAP 220N K 250VAC Y20 121725	08	CA 100
CE0116	Y-CAP 2N2 M 400VAC Y12,5 SDPJ16	04	CA 101 102 103 107 108 115
CB3129	CHIPCERCAP NP0 15P 50V J 0805	03	CA 517 518
CB3133	CHIPCERCAP NP0 22P 50V J 0805	01	CA 339
CB3141	CHIPCERCAP NP0 47P 50V J 0805	01	CA 534 248 533
CB3145	CHIPCERCAP NP0 68P 50V J 0805	01	CA 302
CB3151	CHIPCERCAP NP0 100P 50V J 0805	01	CA 124 301 303 313 535 536
CB3159	CHIPCERCAP NP0 220P 50V J 0805	01	CA 406 427
'CB3163	CHIPCERCAP NP0 330P 50V J 0805	01	CA 123 314 501
CB3167	CHIPCERCAP NP0 470P 50V J 0805	02	CA 122 409
CB3171	CHIPCERCAP 680P	02	CA 209
CB3173	CHIPCERCAP NP0 820P 50V J 0805	02	CA 109
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	03	CA 242 308 321 210 125
CC0530	CERCAP Z5U 4N7 S 500V Y5: D9	01	CA 420
CC3240	CHIPCERCAP X7R 2N2 10% 50V 0805	01	CA 405
CC3260	CHIPCERCAP X7R 3N3 10% 50V 0805	01	CA 249
CC3280	CHIPCERCAP X7R 4N7 10% 50V 0805	01	CA 234 338 415 128
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CA 126 129 335 133 204 214
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CA 241 304 341 404 511 553 541 544
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CA 503 542 543
CC3360	CHIPCERCAP X7R 22N 10% 50V 0805	01	CA 202
CC4400	CHIPCAP X7R 47N K 50V 1206	02	CA 207 208 502
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA 119 132 216 227 232 316 324 337 402 436
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA 437 438 439 440 441 442 529 206 218 561
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA 562 563
CE2435	IMPCAP 15N J 400V Y10 061113	03	CA 429
CE2671	IMPCAP 33N J 400V Y15 061118	04	CA 430 443
CE2802	IMPCAP 51N J 400V Y15 081418	03	CA 421 422 423
CE2852	IMPCAP 68N J 400V Y15 081418	04	CA 431
CE2964	IMPCAP 150N K 250V Y15	05	CA 432
CE3063	IMPCAP 330N J 250V Y22,5 111928	05	CA 433
CE3163	IMPCAP 680N J 250V Y22,5 112128	07	CA 434
CE3223	"IMPCAP 1U2 J 250V""G""Y22,5 091928"	07	CA 435
CE0522	PCACAP MKC 100N J 63V Y5: 040808	04	CA 413
E2004	IMPCAP 100P K 1K6V Y15 051118	03	CA 142 147
CE2094	IMPCAP 820P K 1K5V Y15 061218	04	CA 307
CE2196	IMPCAP 2N2 J 2KV Y22,5 081628	06	CA 416 417
CE2671	IMPCAP 33N J 400V Y15 061118	04	CA 418
CE2931	IMPCAP 100N 250V Y15 081418	04	CA 306
CG2663	PPRCAP KP 4N7 H 63V Y5: 060808	04	CA 127 408
CK0165	PESCAP MKT 22N K 630V Y10 061213	02	CA 116 117
CK0341	PESCAP MKT 220N K 100V Y10 051113	03	CA 233
CK1388	PESCAP MKT 10N K 250V Y7,5 040911	02	CA 305 407
CK1546	PESCAP MKT 47N K 100V Y7,5 040911	02	CA 246
CK2545	PESCAP 47N K 63V Y5: 030708	02	CA 312
CK2626	PESCAP MKT 100N K 63V Y5: 030808	02	CA 156 336
CK2663	PESCAP MKT 150N J 63V Y5: 040908	03	CA 225
CK2704	PESCAP MKT 220N K 63V Y5: 040908	03	CA 551
CK2784	PESCAP MKT 470N K 63V Y5: 051008	03	CA 228 319
CK2864	PESCAP MKT 1U0 K 50V Y5:061108!	05	CA 403
CN0118	ELCAP 150U M 400V R10 SNAP 25X40	16	CA 113 114
CN0204	ELCAP 2U2 M 50V RM5 : 6*12	01	CA 444 445 509
CN0204	ELCAP 2U2 M 50V RM5 : 6*12	01	CA 519 520 521 522 523 524 528
CN0819	ELCAP'2200U M 25V RM7,5 105'17X38	05	CA 149 151 155
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	02	CA 139 317 515 131 212
CN2027	ELCAP 47U M 50V RM5: 105' 9X12	02	CA 205 226
CN2029	ELCAP 4U7 M 100V RM5: 105' 6X12	03	CA 245
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	01	CA 152 153 158 159 510 516 401 118 311
CN2037	ELCAP 10U M 160V RM5 105' 11X21	04	CA 144
CN2461	ELCAP- 47U M 100V RM5 105, 10X16	04	CA 121
CN2543	ELCAP 100U M 50V RM5 105 11X13	02	CA 146 160 161 215 230 320 428 412 217
CN2546	ELCAP 100UF M 100V RM5 105' 14X21	05	CA 143
CN2553	ELCAP 0U47F M 50V RM5: 105' 6X12	01	CA 211 552

Part Number	Description	PG	Item Number
CN2566	ELCAP 4U7F M 50V RM5: 105'6X12MM	02	CA 203 325
CN2581	ELCAP 220U M 35V RM5 105 11X13	03	CA 229 231
CN3250	ELCAP, 47U M 250V RM7,5 105'16X25	05	CA 140 141 411
CN3402	ELCAP,1000U M 16V RM5 +105'13X34	12	CA 414
FJ0274	CHOKE 1,0UH	02	LA 407
FJ0448	CHOKE 13UH FERRITE 2X15	02	LA 104 105
FJ0505	CHOKE 15UH 5% TAPED AXIAL	02	LA 103 106
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	02	LA 101
FJ0730	LEAD INDUCTOR 270UH 10%	03	LA 302
FJ0725	BEAD INDUCTOR MIN IMP360HM	02	FRA 401 402
FJ0733	LEAD INDUCTOR 56UH 10 %	07	LA 401 402 406
FJ0735	LEAD INDUCTOR 82UH 10% Y=5MM	07	LA 405
FJ0800	EMI/RFI CHOKE 60MH 3A(AC)	14	MA 101
FM0636	FLYBACK TRAFO 30..120KHZ 445T	38	MA 301
FJ1826	INPUT CHOKE E30/7 2X6,9 MH	12	MA 102 103
FM2560	DYNAMIC FOCUS TRAFO E20/6 445R	12	MA 404
FM2569	CENTERING COIL E30/7 1.32UH 445T	12	MA 403
FM2570	DRIVER TRAFO E20/6 N67 17.2U 445T	12	MA 402
FM2571	INPUT TRAFO ETD34 N87 382UH 445T	20	MA 401
FM3505	SMPS–TRAFO ETD49 N67 445T	19	MA 104
FU0721	FIXED LINEARITY COIL N–S 445T	08	LA 403
FU0722	FIXED LINEARITY COIL S–N 445T	15	LA 404
JF0025	DI 1N4148 75V 200MA 4N	01	DA 204 208 209 401 402 406 302 303 129
JF0025	DI 1N4148 75V 200MA 4N	01	DA 429
JF0025	DI 1N4148 75V 200MA 4N	01	JA 117
JF0060	DI 1N4002 100V 1A	01	DA 207
JF0206	SCHOTTKY RECTIFIER 30V 1A 1N5818	04	DA 405
jF0072	DI BAV21 200V 250MA 50N	01	DA 128 205 315 432 108
jF0096	DI BYV28–100 100V 3.5A 30N	07	DA 126 413 421 422
JF0166	DIODE BYM26C 600V 2.3A SOD–64	06	DA 122 123
jF0171	DI BYV29–400 400V 8A 50NS TO–220	09	DA 125
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	04	DA 105 409
JF0033	DI UF5404 400V 3A 50NS	04	DA 127
JF0034	DI UF5406 600V 3A 75N	09	DA 306
JF0073	DI RGP10G 400V 1A 150N	02	DA 418 419 420 427 416 423 424
JF0104	DI BYV27–200 200V 2A 25N SOD57	03	DA 411 412 430
JF0106	DI UF2D–7000 200V 2A 50N MUOVI	03	DA 106
JF0107	DI BYV26C 600V 1A 30N	05	DA 426
JF4003	DI BAV103 200V 250MA 50NS SOD–80	07	DA 407 408 431
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA 107 109 110 120 121 201 206 210 211 301
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA 304 305 307 316 317 318 403 404 212
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA 504 507 508 417 428 130
JF4011	SCHOTTKY BARRIER 30V 200MA SOT–23	03	DA 202
JF4101	DI RHRD460S 600V 4A 30NS TO–252	08	DA 124 410
JB0044	DI DTV110F 1500V 10A TO220FI	14	DA 414
JB0047	DI GP30M 1000V 3A 3,0US DO201AD	04	DA 101 102 103 104
JH0053	ZDI BZX83C5V6 5.6V 0.5W 5%	01	DZA 101
JH0054	ZDI BZX83C12 12V 0.5W 5%	01	DZA 402 404 405 103
JH0059	ZDI BZX83C8V2 8.2V 0.5W 5%	01	DZA 102
JH0169	ZDI BZX55B3V9 3,9V 0,5W 2%	03	DZA 502
JH0085	ZDI BZX83C22 22V 0.5W 5%	01	DZA 201
JH0086	ZDI BZX83C4V7 4.7V 0.5W 5%	02	DZA 403
JH4118	ZDI BZX84C12 12V 0.35W 5%	02	DZA 301
JM0099	TR BC547B N 45V 100A 200M:	01	TA 301 305 307
JM0100	TR BC557B P 45V 100A 200M:	01	TA 115 302 306
JM0203	TR MPSA42 N 300V 500MA TO92	03	TA 415 416
JM0205	TR BF423 P 250V 25MA 60M:	03	TA 112
JM0206	TR BF420 N 300V 100MA 60M TO–92:	12	TA 417
JM0227	TR MPS2369 N 15V 200MA 500M	03	TA 207 405
JM0239	TR BC638 P 60V 1A 50M:	04	TA 103
JM0244	TR BF422 N 250V 25MA 60M:	02	TA 311 410 425
JM0252	TR BC639–10 N 100V 1.5A TO92	03	TA 412
JM0273	TR 2N5551 NPN 160V 0,6A	02	TA 104 205 206
JM0280	TR 2N5401 P 150V 0.6A 100M	02	TA 411
JM0334	TR BD135 NPN 45V 1A5 250MHZ TO126	04	TA 328 330 334
JM0335	TR BD136 PNP 45V 1A5 250MHZ TO126	04	TA 329 331 335
JM4105	TR BC847B N 45V 0.1A SOT23	04	TA 117 118 203 312 315 316 319 324
JM4105	TR BC847B N 45V 0.1A SOT23	04	TA 327 404 406 208 508
JM4114	TR BC857B P 45V 100MA 150M:	02	TA 102 106 107 116 509 426 310 313 314 317
JM4114	TR BC857B P 45V 100MA 150M:	02	TA 318 325 326 401 402 407 506
JM0341	TR BUH1215(435B) N 1500V 19ATO218	19	TA 409
JS1006	FET BS170 N 60V 500MA	10	TA 111
JS0019	FET IRF640 N 200V 18A TO220	13	TA 420 421 422 423 424
JS0019	FET IRF640 N 200V 18A TO220	13	TA 418 419
JS0026	FET IRFBC40 N 600V 6.0A TO220 AB	12	TA 403
JS0030	FET IRF620 200V 5A 0.8R TO–220	07	TA 413 414
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA 113
JS0049	FET 2SJ306 P 250V 3A 1.5R TO220	19	TA 303
JS0051	FET IRF9540 P 100V 19A 0.2R TO220	14	TA 408
JS0062	FET IRFPC50 N 600V 11A OR60 TO247	17	TA 105
JS0063	FET IRFIBE30G N 800V 2,1A 3R0 220	23	TA 304
LM4406	IC LM324 QUAD OP–AMP SO–14	05	ICA 304
LM0893	IC 74HC14N 6XINV.SCHMITT–TRIGGER	05	ICA 502
LM0921	IC SI–3120F 12V LOWDROP REG	10	ICA 105
LM4111	IC 4538BT	05	ICA 301
LM0067	IC UA7805UC +5V REGULATOR TO–220	13	ICA 104 106
LM4022	IC 74HCT74 DUAL D–FLIP–FLOP SO–14	05	ICA 503
LM4111	IC 4538BT	05	ICA 506
LM0930	IC STV9379 VERT.DEFL.BOOSTER	15	ICA 203
LM0340	IC TDA2040V AUDIO POWER AMPLIFIER	14	ICA 302
LM0663	IC TL431 VOLTAGE REFERENCE TO–92	06	ICA 103
LM0931	IC MAS1012 DYN.CONV.CONTROL IC	21	ICA 303
LM0938	IC ST72E72 MONITOR UC,DDC DIP–56	34	ICA 501
LM0957	IC UC3843 CURR.MODE PWM CON.DIP–8	06	ICA 401
LM0945	IC 24C65 SERIAL EEPROM 8X8K DIP–8	16	ICA 504
LM0959	IC L4990 PRIMARY CONTROLLER DIP16	10	ICA 101
LM0962	IC TDA9106 DEFLECTION PROCESSOR	19	ICA 201
LZ0003	IC–SOCKET 8–POLE DIL SINGLE LEAF	03	ICA 504
LZ0063	IC–SOCKET 56–POLE DUAL LEAF 1.78	10	ICA 501
JL0066	OPTOCOUPLER CNX82A 3750VRMS	07	ICA 102
SE0928	YLITYSLANKA D=0,6 L=50MM	01	RA 312
SE0928	YLITYSLANKA D=0,6 L=50MM	01	LA 102
SE2530	POWER SYNC. JOHTO 447C	08	MA 301
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	01	002
SE2643	VERT. JOHTO 445R	06	VA 001 002
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	01	JA 802 803 804 806 809 810
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	01	JA 811 812 815 818 819 820 823
QA0095	CRYSTAL 8,00 MHZ HC–49/U	04	XA 501
QT0002	SPARK GAP 1,2KV +–500V R=5,0MM	03	GLA 302 303
QT0207	GLIMM LAMP 95V 6*12,5MM	04	GLA 301
QT0102	FUSEHOLDER CLIPS 5*20MM R=5,0MM	01	FA 101
QT0775	FUSE 5*20MM T 6,3A 250V 1500A	03	FA 101
QT0733	FUSE R=5,0MM T 3,15A 250V IEC127	04	FA 102
AA0665	CF RES 0W25 470R J 2,5–7	01	RZ 603
AA0697	CF RES 0W25 10K J 2,5–7	01	RZ 607
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RZ 604
AC4457	CHIPRES 0W1 220R 5% 0805 2013	01	RZ 608
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	RZ 602
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RZ 605 609
AC4465	CHIPRES 0W1 470R 5% 0805 2013	01	RZ 601
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	FOL
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RZ 606
AP0191	PMET 10K LIN EVJ02KFB6B14 CCLICK	10	PZ 602 603
JL0058	LED DUALCOLOR RED/GREEN 3 MM	04	LEDZ 601
JL0061	LED GREEN MPG3372X 3MM	03	LEDZ 602 603
JM4105	TR BC847B N 45V 0.1A SOT23	04	TZ 601
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DZ 601
QG0329	MINIATURE PUSH SWITCH 0.1A 24VDC	10	SWZ 601 602
QG0401	ENCODER 20PULSE/ 360' WITH SWITCH	14	PZ 601
QM1005	PICOFLEX ASSY BI–IDC 16–POS 120MM	11	QZ 601
QK1059	PIN STRIP 1X03	03	QA 301
QK1415	CRIPLET CONN FOR 2–SIDED PCB	01	
QK1285	ROW CONN 1X05 5,08/7,62 VERT/LOCK	03	QA 102
QK1287	PIN STRIP 1X04 8,0/10.0 VERT MALE	03	QA 401
QK1531	PIN STRIP 1X08 2,5 VERT	04	QA 302
QK1587	COOLING & SUPP.PART FOR RESISTOR	01	RA 126
QK1650	MAINS CONN MALE 90DEG W/PCB SNAPS	08	QA 101
QK1707	PICOFLEX HEADER 1X16 1,27MM	04	QA 505
UC1140	COOLING PLATE PN45154 KUPAR	02	TA 113 303 304 403 408 420
UC1140	COOLING PLATE PN45154 KUPAR	02	TA
UC1140	COOLING PLATE PN45154 KUPAR	02	ICA 104 105 106 302
UC1140	COOLING PLATE PN45154 KUPAR	02	DA 125
UC6564	COOLINGPLATE 449A PN303153	05	TA 105
UC6564	COOLINGPLATE 449A PN303153	05	ICA 203
UC6647	COOLING PLATE 445X	09	TA 328 329 330 331 334 335
XE0057	COPPER FLATCABLE 0,5*50MM	22	
UC6664	COOLING PLATE 445X	14	TA 421 422 423 424
XE0057	COPPER FLATCABLE 0,5*50MM	22	
UC6784	COOLING PLATE PN410058 447E	04	DA 124
UC6912	J__HD.LEVY/COOLING PLATE 445T	10	TA 409
UC6912	J__HD.LEVY/COOLING PLATE 445T	10	DA 414
UC0859	FASTENING SPRING PN44473	02	TA 113 303 304 403 408 420 421 422 423
UC0859	FASTENING SPRING PN44473	02	TA 424
UC0859	FASTENING SPRING PN44473	02	ICA 104 105 106 302
UC0859	FASTENING SPRING PN44473	02	DA 125
UC6551	FASTENING SPRING	03	DA 414
UC6551	FASTENING SPRING	03	ICA 203
UC6552	FASTENING SPRING	03	TA 105 409
UC6668	FASTENING SPRING TO126	02	TA 328 329 330 331 334 335
UC6743	SUPPORT 447E/H	06	
UC6752	WASHER 447E	01	MA 301
UC6752	WASHER 447E	01	
UC6893	SUPPORT 445P	05	
UJ0125	LEAD BAND SST 1 M	01	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	01	ICA 203
JZ0018	SILIC/AL INSUL. WITH GLUE 19*13	03	TA 113 403 408 420 421 422 423 424
JZ0018	SILIC/AL INSUL. WITH GLUE 19*13	03	ICA 104 106 302
JZ0018	SILIC/AL INSUL. WITH GLUE 19*13	03	DA 125
JZ0012	SILICONE INSUL. 22*30*0.22MM	04	TA 105 409
JZ0017	SILICONE INSUL.10X13X0,22 TO–126	02	TA 328 329 330 331 334 335
QM1006	PICOFLEX ASSY BI–IDC 16–POS 550MM	12	QA 502
QM1007	PICOFLEX ASSY BI–IDC 10–POS 500MM	10	QA 501
WC0353	PT–SCR KB 40X10 WN1447 FE/ZN YELL	01	MA 301
WC0446	SCREW 2,9X8 FE/ZN	01	
WC0530	SCREW AV ZNYEL 2,9X11,5	02	MA 301
XW0032	L_MP.JOHT.RASVA DOW CORNING	32	TA 105 409
XW0032	L_MP.JOHT.RASVA DOW CORNING	32	DA 414
XW0032	L_MP.JOHT.RASVA DOW CORNING	32	ICA 203

NB. Safety components marked with ⚠ must be replaced
with original or approved components only.
All printed boards and the back
cover are also safety components


DEMA
Q102 1 2 3 4 5
Q104 1 2 3 4 5 6
USB
Q103 3 2 1
PTC2
NTC1
Q101
C100 220n
F101 T6.3A
M101 FJ0800
C101 2n2
C102 2n2
C103 2n2
C104 N.C
C105 N.C
M102 FJ1826
M103 FJ1826
C107 2n2
C108 2n2
R101 1M COMP.RES
D101 GP30M
D102 GP30M
D103 GP30M
D104 GP30M
C109 3n3
C110 3n3
C111 3n3
C112 3n3
C113 150u 400V
C114 150u 400V
C115 2n2
R102 4M7
R103 4M7
12V
RE1
D120 LL4148
T111 BS170
C139 1u 50V
R140 4M7
D121 LL4148
R141 1k
DEMA (5)
R138 68k
R139 68k
R104 470k
R105 470k
POWER1 (5)
R106 470k
R107 470k
POWER2 (5)
D111 LL4148
R108 120k
T101 MPSA44
T108 IRF820
M104 FM3505
3
2
1
D122 BYM26C
L102 FJ0505
C140 47u 250V
C141 47u 250V
C142 100
R142 270
D123 BYM26C
L103 FJ0505
C143 100u 100V
C144 10u 100V
190V
80V
R137 1M2
R124 1M2
R123 1M2
R112 10k
T102 BC847
R135 100k
R136 220k
C117 22n 630V
R126 56k 4W
C116 22n 630V
D105 UF4007
D112 LL4148
T105 IRFPC50
R120 4k7
D109 LL4148
C126 10n
R119 39k
C125 1n
R127 22
R128 2k2
C120 2n2
C121 47u 100V
D106 BYV27-200
T107 BC857
POWER SYNC
R118 1k
DZ101 5V6
C124 100
IC101 L4990
SYNC RCT DC VREF VFB COMP SS VCC
DC-LIM DIS ISEN SGND PGND OUT VC
R115 22k
C127 4n7
R116 22k
T106 BC857
R111 22k
C131 1u
C132 100n
R114 N.C
R110 22k
D110 LL4148
R109 1k
R113 10k
C128 4n7
C129 10n
C118 10u 35V
C119 100n
R121 2k2
C122 470
C123 220
R129 1k
R130 0R56
R131 0R56
R132 0R56
R134 4k64
T103 BC638
DZ102 8V2
T104 2N5551
R133 4k7
D107 LL4148
D108 BAV103
R125 100
R122 15k
D113 LL4148
L101 FJ0517
D124 RHRD460S
T112 BF423
C145 47n
C147 100
R144 270
C146 100u 25V
R145 1R00
R146 1R00
R147 470
R148 1k
R149 154k
190V
T113 IRF820
R164 100
R165 10k
DZ103 C12
C162 4n7
D128 BAV21
D129 1N4148
IC106 7805
C158 10u
C159 10u
STBY_5V
15V
D125 BYV29-400
C149 2200u 35V
L104 FJ0448
C148 100
R150 22
IC105 SI-3120F
C160 100u 25V
C161 100u 25V
12V
SUSPEND (5)
7V
F102 3.15A
D126 BYV28-100
L105 FJ0448
IC104 7805
C150 100
R151 22
C151 2200u 16V
C152 10u
C153 10u
5V
C154 100
R152 22
-13_V
R153 0R56
D127 UF5404
L106 FJ0505
C155 2200u 25V
-13V
STBY_5V
(2.4.5)
UVLO
R163 10k
T118 BC847
T117 BC847
R162 10k
STBY_5V
R155 220
T115 BC557
R154 470
R167 2k2
C156 100n
R161 1k
R156 470
IC102 CNX82A
C157 2n2
R157 1k
STBY_5V
IC103 TL431
R168 33k
R158 2k2
R160 10k
R159 47k
RT101 10k
POWER ADJ
T116 BC857
D130 LL4148
POWER_OFF (5)

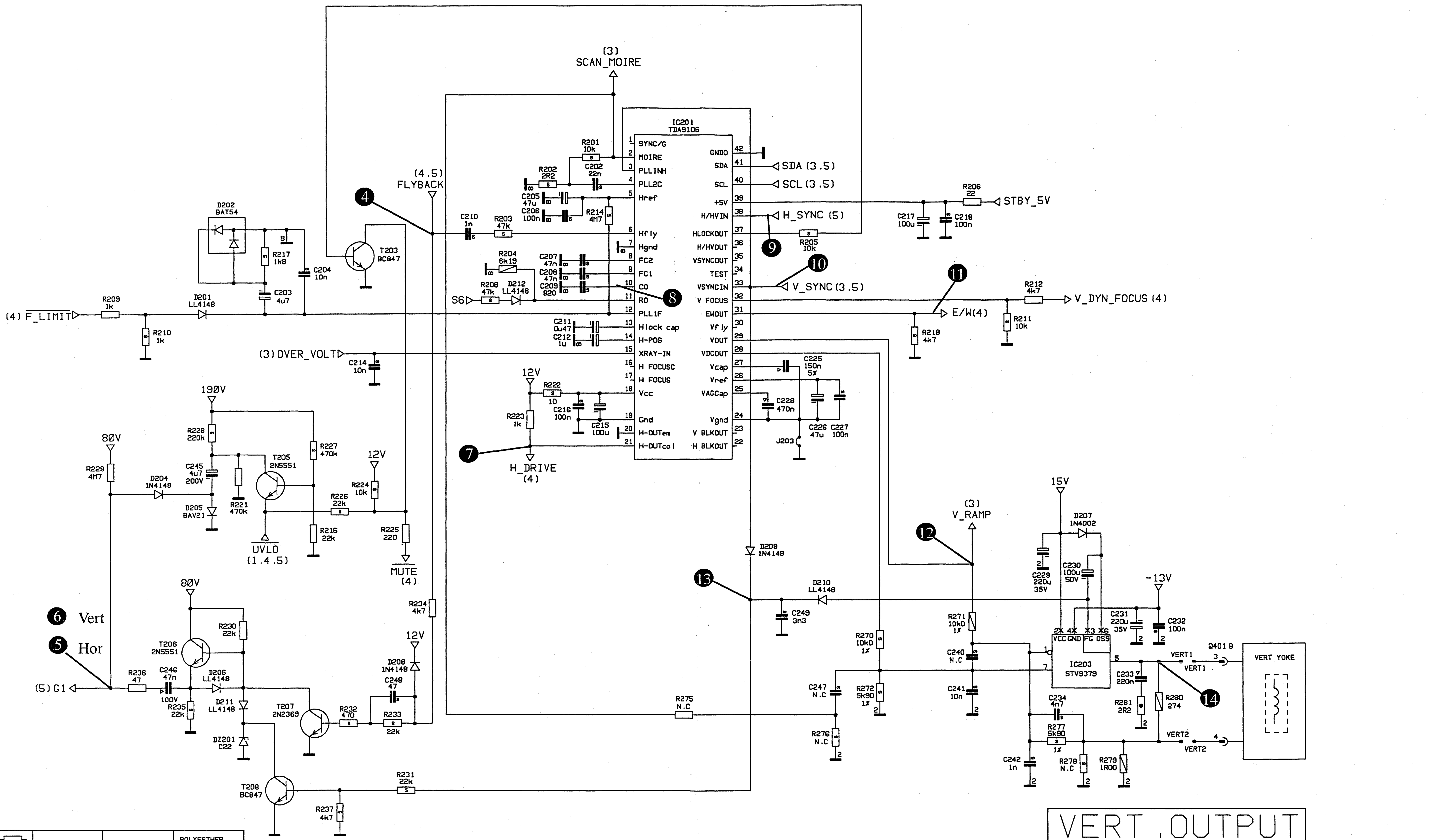
─▭─	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

POWER SUPPLY

ECN	56010
ECNNO	

SMA193E 1

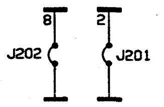
D3122E 05.97 Page 3


(3)
SCAN_MOIRE
IC201
TDA9106
SYNC/G
MOIRE
PLLINH
PLL2C
Href
Hfly
Hgnd
FC2
FC1
CO
RO
PLL1F
Hlock cap
H-POS
XRAY-IN
H FOCUSC
H FOCUS
Vcc
Gnd
H-OUTem
H-OUTcol
GNDD
SDA
SCL
+5V
H/HVIN
HLOCKOUT
H/HVOUT
VSYNCOUT
TEST
VSYNCIN
V FOCUS
EWOUT
Vfly
VOUT
VDCOUT
Vcap
Vref
VAGCap
Vgnd
V BLKOUT
H BLKOUT
SDA (3.5)
SCL (3.5)
STBY_5V
H_SYNC (5)
V_SYNC (3.5)
V_DYN_FOCUS (4)
E/W(4)
(4.5)
FLYBACK
(4) F_LIMIT
(3) OVER_VOLT
S6
12V
H_DRIVE
(4)
190V
80V
UVLO
(1.4.5)
MUTE
(4)
(5) G1
Vert
Hor
T203 BC847
T205 2N5551
T206 2N5551
T207 2N2369
T208 BC847
D202 BAT54
D201 LL4148
D204 1N4148
D205 BAV21
D206 LL4148
D211 LL4148
DZ201 C22
D208 1N4148
D212 LL4148
D209 1N4148
D210 LL4148
D207 1N4002
15V
-13V
(3)
V_RAMP
IC203
STV9379
VCC GND FC OSS
VERT1
VERT2
Q401 B
VERT YOKE
R201 10k
R202 2R2
C202 22n
C205 47u
C206 100n
R214 4M7
C210 1n
R203 47k
R204 6k19
C207 47n
C208 47n
C209 820
R208 47k
C211 0u47
C212 1u
C214 10n
R222 10
C216 100n
C215 100u
R223 1k
R206 22
C217 100u
C218 100n
R205 10k
R212 4k7
R211 10k
R218 4k7
C225 150n 5%
C228 470n
C226 47u
C227 100n
J203
R217 1k8
C204 10n
C203 4u7
R209 1k
R210 1k
R228 220k
R227 470k
C245 4u7 200V
R221 470k
R224 10k
R226 22k
R216 22k
R225 220
R229 4M7
R234 4k7
R230 22k
R236 47
C246 47n 100V
R235 22k
C248 47
R232 470
R233 22k
R231 22k
R237 4k7
R275 N.C
C249 3n3
R270 10k0 1%
R272 5k90 1%
C247 N.C
R276 N.C
C229 220u 35V
C230 100u 50V
R271 10k0 1%
C240 N.C
C241 10n
C231 220u 35V
C232 100n
C233 220n
R281 2R2
R280 274
C234 4n7
R277 5k90 1%
C242 1n
R278 N.C
R279 1R00
4
5
6
7
8
9
10
11
12
13
14

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

VERT.OUTPUT

DEFLECTION PROCESSOR



ECN
ECNNO

56010

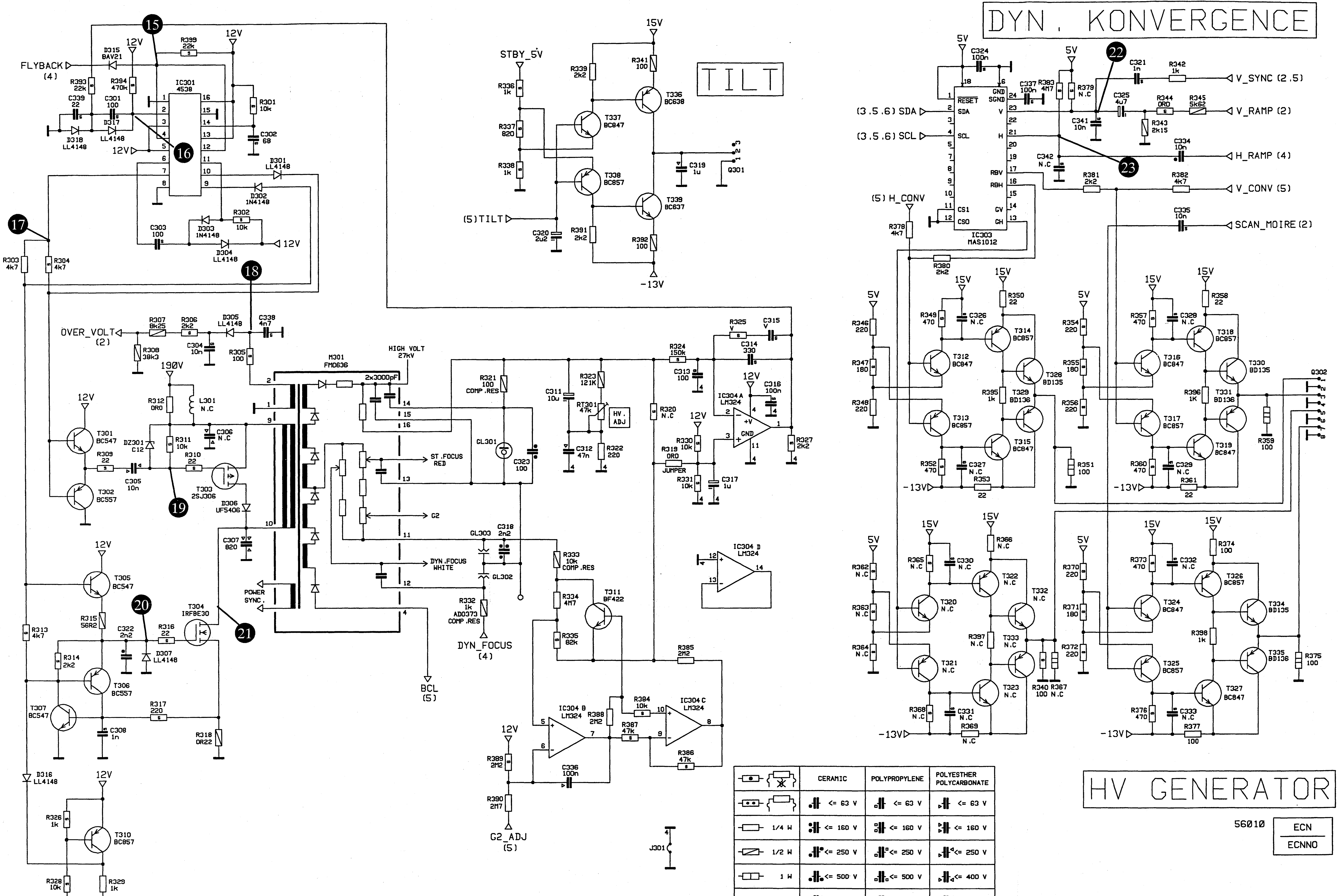
SMA193E

1

D3122E 05.97 Page 4

445T

HV GENERATOR


DYN. KONVERGENCE
TILT
15
16
17
18
19
20
21
22
23
FLYBACK (4)
D315 BAV21
12V
R399 22k
R393 22k
R394 470k
IC301 4538
C339 22
C301 100
D317 LL4148
D318 LL4148
R301 10k
C302 68
12V
D301 LL4148
D302 1N4148
D303 1N4148
R302 10k
C303 100
D304 LL4148
12V
R303 4k7
R304 4k7
OVER_VOLT (2)
R307 8k25
R306 2k2
D305 LL4148
C338 4n7
R308 38k3
C304 10n
R305 100
190V
R312 0R0
L301 N.C
R311 10k
C306 N.C
DZ301 C12
R309 22
C305 10n
R310 22
T303 2SJ306
D306 UF5406
C307 820
T301 BC547
T302 BC557
12V
T305 BC547
R315 56R2
C322 2n2
R316 22
D307 LL4148
T304 IRFBE30
R314 2k2
T306 BC557
T307 BC547
R317 220
C308 1n
R318 0R22
R313 4k7
D316 LL4148
12V
R326 1k
T310 BC857
R328 10k
R329 1k
M301 FM0636
HIGH VOLT 27kV
2x3000pF
POWER SYNC.
ST.FOCUS RED
G2
DYN.FOCUS WHITE
BCL (5)
R321 100 COMP.RES
GL301
C323 100
GL303
C318 2n2
GL302
R332 1k AD0373 COMP.RES
DYN_FOCUS (4)
R333 10k COMP.RES
R334 4M7
R335 82k
T311 BF422
C311 10u
R323 121K
RT301 47k
HV. ADJ
C312 47n
R322 220
R320 N.C
R324 150k
C313 100
R325 V
C315 V
C314 330
12V
IC304 A LM324
C316 100n
R327 2k2
12V
R330 10k
R319 0R0
JUMPER
R331 10k
C317 1u
IC304 D LM324
R385 2M2
IC304 B LM324
R388 2M2
R384 10k
IC304 C LM324
R387 47k
R386 47k
12V
R389 2M2
C336 100n
R390 2M7
G2_ADJ (5)
J301
STBY_5V
15V
R336 1k
R339 2k2
R341 100
T336 BC638
T337 BC847
R337 820
R338 1k
T338 BC857
C319 1u
Q301
(5)TILT
C320 2u2
R391 2k2
T339 BC637
R392 100
-13V
5V
C324 100n
RESET
SDA
SCL
CS1
CS0
GND
SGND
V
H
RBV
RBH
GV
GH
IC303 MAS1012
(3.5.6) SDA
(3.5.6) SCL
C337 100n
R383 4M7
R379 N.C
C321 1n
R342 1k
V_SYNC (2.5)
C325 4u7
R344 0R0
R345 5k62
V_RAMP (2)
C341 10n
R343 2k15
C334 10n
H_RAMP (4)
C342 N.C
R381 2k2
R382 4k7
V_CONV (5)
C335 10n
SCAN_MOIRE (2)
(5) H_CONV
R378 4k7
R380 2k2
R346 220
R347 180
R348 220
R349 470
C326 N.C
R350 22
T312 BC847
T314 BC857
T328 BD135
R395 1k
T329 BD136
T313 BC857
T315 BC847
R352 470
C327 N.C
R353 22
R351 100
R354 220
R355 180
R356 220
R357 470
C328 N.C
R358 22
T316 BC847
T318 BC857
T330 BD135
R396 1K
T331 BD136
T317 BC857
T319 BC847
R360 470
C329 N.C
R361 22
R359 100
Q302
R362 N.C
R363 N.C
R364 N.C
R365 N.C
C330 N.C
R366 N.C
T320 N.C
T322 N.C
T332 N.C
R397 N.C
T333 N.C
T321 N.C
T323 N.C
R368 N.C
C331 N.C
R369 N.C
R340 100
R367 N.C
R370 220
R371 180
R372 220
R373 470
C332 N.C
R374 100
T324 BC847
T326 BC857
T334 BD135
R398 1k
T335 BD136
T325 BC857
T327 BC847
R376 470
C333 N.C
R377 100
R375 100
-13V
15V
5V

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

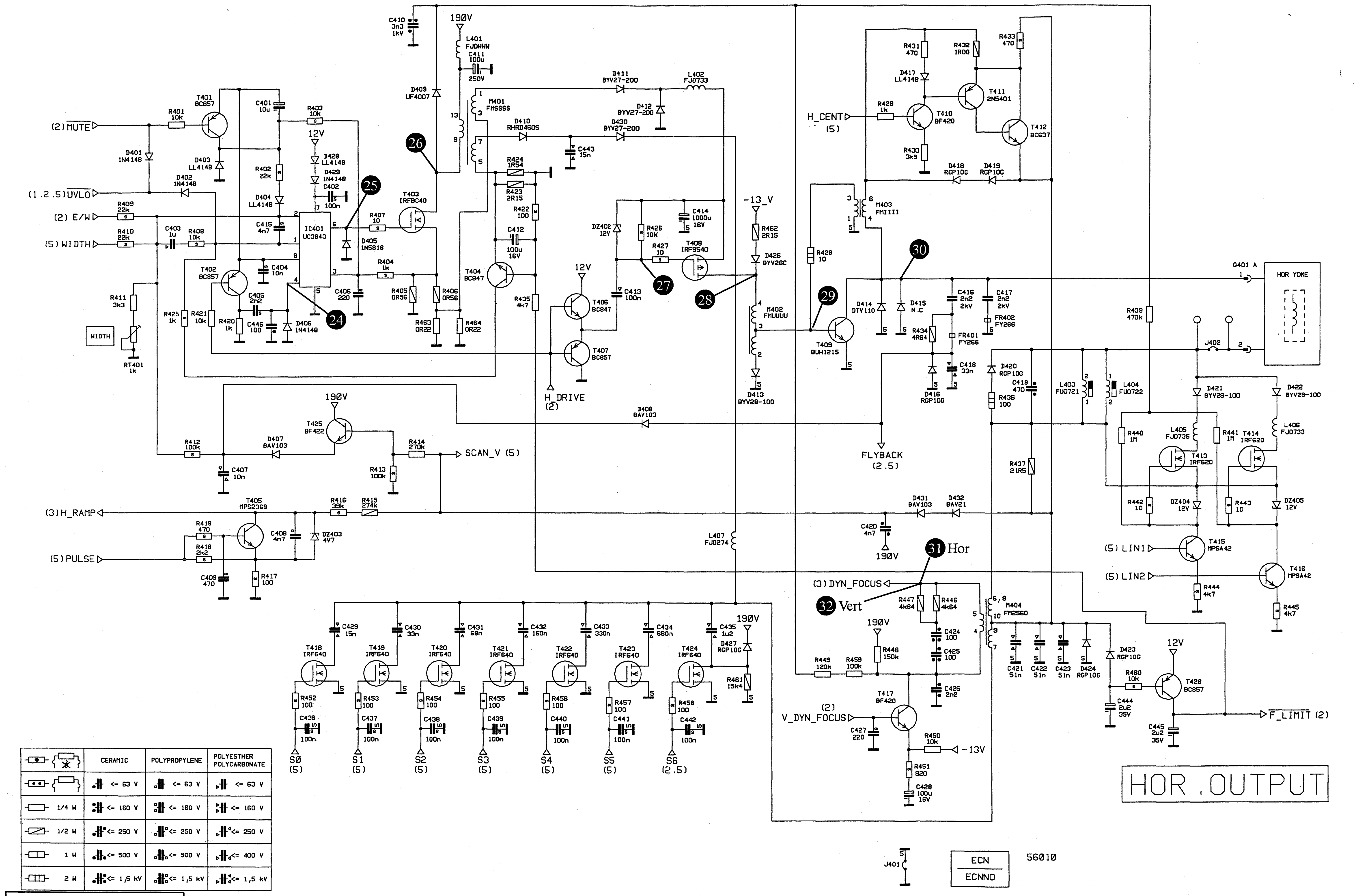
56010

ECN

ECNNO

SMA193E 1

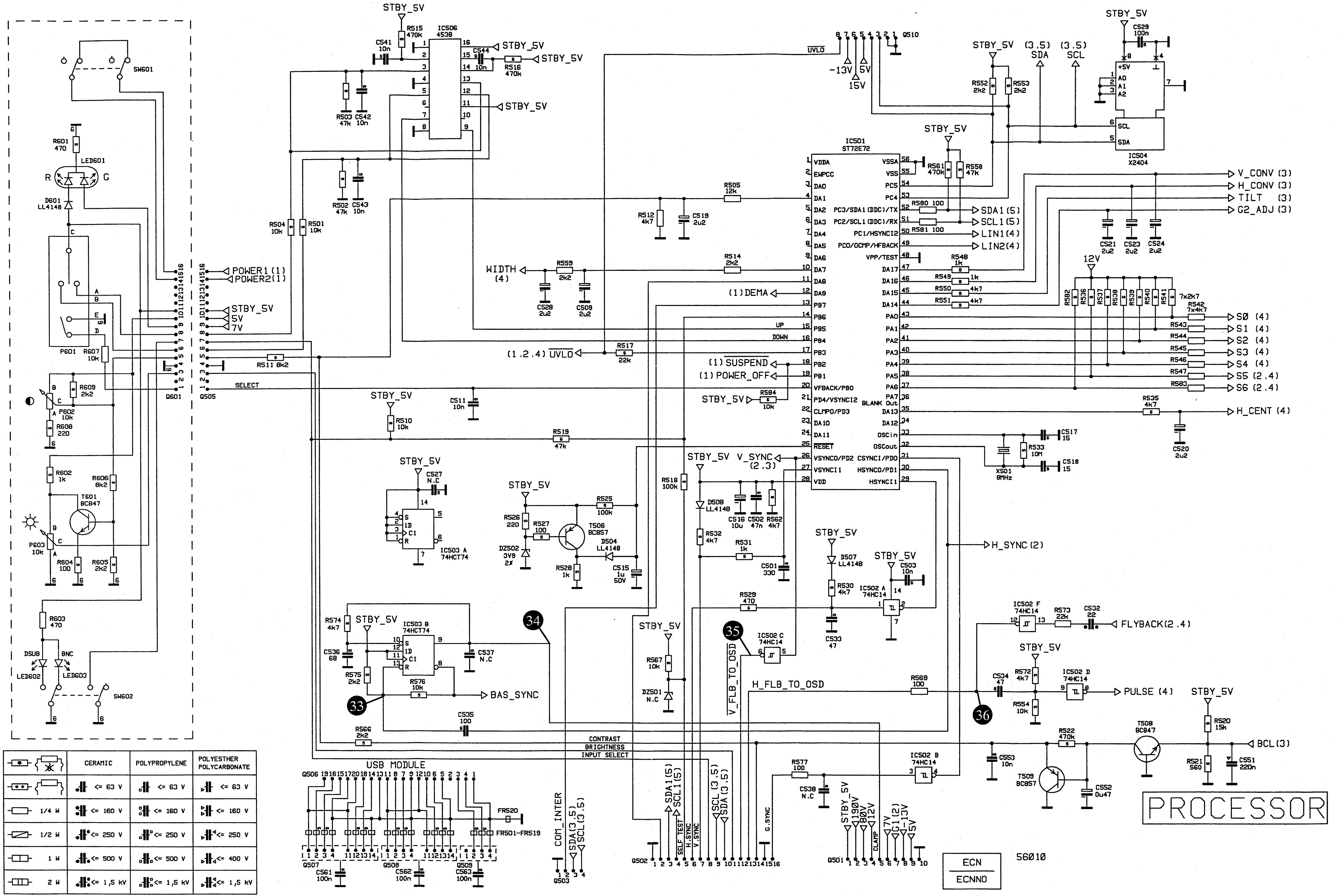
D3122E 05.97 Page 5


(2) MUTE
(1.2.5) UVLO
(2) E/W
(5) WIDTH
WIDTH
RT401 1k
R411 3k3
T401 BC857
R401 10k
D401 1N4148
D403 LL4148
D402 1N4148
R409 22k
R410 22k
C403 1u
R408 10k
C401 10u
R403 10k
12V
D428 LL4148
D429 1N4148
C402 100n
R402 22k
D404 LL4148
C415 4n7
IC401 UC3843
D405 1N5818
R407 10
T403 IRFBC40
R404 1k
R405 0R56
R406 0R56
R463 0R22
R464 0R22
C406 220
T402 BC857
C404 10n
C405 2n2
C446 100
D406 1N4148
R420 1k
R421 10k
R425 1k
C410 3n3 1kV
190V
L401 FJ0WWW
C411 100u 250V
D409 UF4007
M401 FMSSSS
D410 RHRD460S
R424 1R54
R423 2R15
R422 100
C412 100u 16V
T404 BC847
R435 4k7
D411 BYV27-200
D412 BYV27-200
D430 BYV27-200
L402 FJ0733
C443 15n
DZ402 12V
R426 10k
C414 1000u 16V
R427 10
T408 IRF9540
C413 100n
T406 BC847
T407 BC857
H_DRIVE (2)
-13_V
R462 2R15
D426 BYV26C
M402 FMUUUU
D413 BYV28-100
T425 BF422
R412 100k
D407 BAV103
C407 10n
R414 270k
R413 100k
SCAN_V (5)
D408 BAV103
(3) H_RAMP
T405 MPS2369
R416 39k
R415 274k
R419 470
R418 2k2
C408 4n7
DZ403 4V7
(5) PULSE
C409 470
R417 100
L407 FJ0274
R431 470
R432 1R00
R433 470
D417 LL4148
T411 2N5401
H_CENT (5)
R429 1k
T410 BF420
T412 BC637
R430 3k9
D418 RGP10G
D419 RGP10G
M403 FMIIII
R428 10
D414 DTV110
D415 N.C
C416 2n2 2kV
C417 2n2 2kV
FR402 FY266
FR401 FY266
R434 4R64
T409 BUH1215
C418 33n
D416 RGP10G
FLYBACK (2.5)
Q401 A
HOR YOKE
R439 470k
J402
D420 RGP10G
C419 470
R436 100
L403 FU0721
L404 FU0722
R437 21R5
D421 BYV28-100
D422 BYV28-100
R440 1M
L405 FJ0735
R441 1M
T414 IRF620
L406 FJ0733
T413 IRF620
R442 10
DZ404 12V
R443 10
DZ405 12V
D431 BAV103
D432 BAV21
C420 4n7
190V
(5) LIN1
T415 MPSA42
(5) LIN2
T416 MPSA42
R444 4k7
R445 4k7
31 Hor
32 Vert
(3) DYN_FOCUS
R447 4k64
R446 4k64
M404 FM2560
C424 100
C425 100
C426 2n2
R448 150k
R449 120k
R459 100k
T417 BF420
(2) V_DYN_FOCUS
C427 220
R450 10k
-13V
R451 820
C428 100u 16V
C421 51n
C422 51n
C423 51n
D424 RGP10G
D423 RGP10G
12V
R460 10k
T426 BC857
C444 2u2 35V
C445 2u2 35V
F_LIMIT (2)
C429 15n
C430 33n
C431 68n
C432 150n
C433 330n
C434 680n
C435 1u2
D427 RGP10G
R461 15k4
T418 IRF640
T419 IRF640
T420 IRF640
T421 IRF640
T422 IRF640
T423 IRF640
T424 IRF640
R452 100
R453 100
R454 100
R455 100
R456 100
R457 100
R458 100
C436 100n
C437 100n
C438 100n
C439 100n
C440 100n
C441 100n
C442 100n
S0 (5)
S1 (5)
S2 (5)
S3 (5)
S4 (5)
S5 (5)
S6 (2.5)
J401
24
25
26
27
28
29
30
CERAMIC
POLYPROPYLENE
POLYESTHER POLYCARBONATE
<= 63 V
1/4 W
<= 160 V
1/2 W
<= 250 V
1 W
<= 500 V
<= 400 V
2 W
<= 1,5 kV
ECN
ECNNO
56010

HOR.OUTPUT

SMA193E 1

D3122E 05.97 Page 6


STBY_5V
R515 470k
IC506 4538
C541 10n
C544 10n
R516 470k
R503 47k
C542 10n
R502 47k
C543 10n
R504 10k
R501 10k
SW601
R601 470
LED601
R
G
D601 LL4148
P601
R607 10k
R609 2k2
P602 10k
R608 220
R602 1k
R606 8k2
T601 BC847
P603 10k
R604 100
R605 2k2
R603 470
DSUB
BNC
LED602
LED603
SW602
Q601
Q505
POWER1(1)
POWER2(1)
STBY_5V
5V
7V
R511 8k2
SELECT
UVLO
Q510
-13V
15V
5V
(3,5) SDA
(3,5) SCL
R552 2k2
R553 2k2
C529 100n
IC504 X2404
+5V
A0
A1
A2
SCL
SDA
IC501 ST72E72
VDDA
EWPCC
DA0
DA1
DA2
DA3
DA4
DA5
DA6
DA7
DA8
DA9
PB7
PB6
PB5
PB4
PB3
PB2
PB1
VFBACK/PB0
PD4/VSYNCI2
CLMP0/PD3
DA10
DA11
RESET
VSYNC0/PD2
VSYNCI1
VDD
VSSA
VSS
PC5
PC4
PC3/SDA1 (DDC)/TX
PC2/SCL1 (DDC)/RX
PC1/HSYNCI2
PC0/OCMP/HFBACK
VPP/TEST
DA17
DA16
DA15
DA14
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7 BLANK Out
DA13
DA12
OSCin
OSCout
CSYNCI/PD0
HSYNC0/PD1
HSYNCI1
R561 470k
R558 47k
R505 12k
R512 4k7
C519 2u2
R580 100
R581 100
SDA1(5)
SCL1(5)
LIN1(4)
LIN2(4)
V_CONV (3)
H_CONV (3)
TILT (3)
G2_ADJ (3)
C521 2u2
C523 2u2
C524 2u2
R548 1k
R549 1k
R550 4k7
R551 4k7
12V
R582
R536
R537
R538
R539
R540
R541
7x2k7
R542 7x4k7
R543
R544
R545
R546
R547
R583
S0 (4)
S1 (4)
S2 (4)
S3 (4)
S4 (4)
S5 (2,4)
S6 (2,4)
R535 4k7
H_CENT (4)
C520 2u2
C517 15
C518 15
R533 10M
X501 8MHz
WIDTH (4)
R559 2k2
C528 2u2
C509 2u2
R514 2k2
(1) DEMA
UP
DOWN
(1,2,4) UVLO
R517 22k
(1) SUSPEND
(1) POWER_OFF
R584 10k
C511 10n
R510 10k
R519 47k
V_SYNC (2,3)
R518 100k
D508 LL4148
C516 10u
C502 47n
R562 4k7
R532 4k7
R531 1k
C501 330
H_SYNC (2)
C527 N.C
IC503 A 74HCT74
R526 220
R527 100
T506 BC857
DZ502 3V9 2%
D504 LL4148
R525 100k
R528 1k
C515 1u 50V
D507 LL4148
R530 4k7
C533 47
IC502 A 74HC14
C503 10n
R529 470
IC502 F 74HC14
R573 22k
C532 22
FLYBACK(2,4)
R574 4k7
IC503 B 74HCT74
C536 68
C537 N.C
R575 2k2
R576 10k
BAS_SYNC
C535 100
R566 2k2
R567 10k
DZ501 N.C
IC502 C 74HC14
V_FLB_TO_OSD
H_FLB_TO_OSD
R569 100
C534 47
R572 4k7
R554 10k
IC502 D 74HC14
PULSE (4)
R520 15k
R521 560
C551 220n
BCL(3)
T508 BC847
R522 470k
C553 10n
T509 BC857
C552 0u47
IC502 B 74HC14
R577 100
C538 N.C
CONTRAST
BRIGHTNESS
INPUT SELECT
USB MODULE
Q506
Q507
Q508
Q509
C561 100n
C562 100n
C563 100n
FR520
FR501-FR519
COM_INTER
SDA(3,5)
SCL(3,5)
Q503
Q502
SDA1(5)
SCL1(5)
SELF TEST
H.SYNC
V.SYNC
SCL (3,5)
SDA (3,5)
G.SYNC
Q501
STBY_5V
190V
80V
12V
CLAMP
7V
G1(2)
-13V
5V
33
34
35
36

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

PROCESSOR

ECN

ECNNO

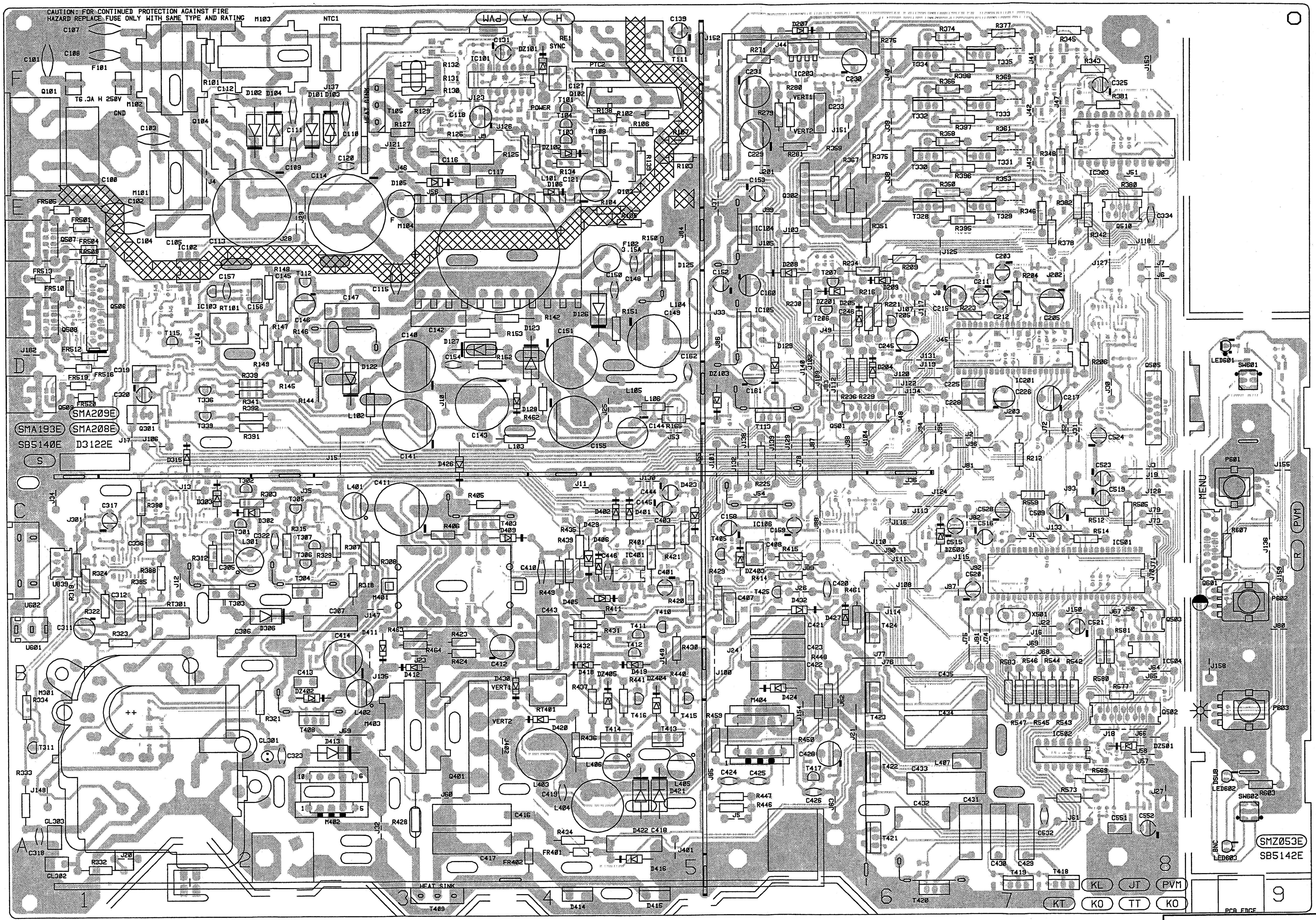
56010

445T

SMA193E

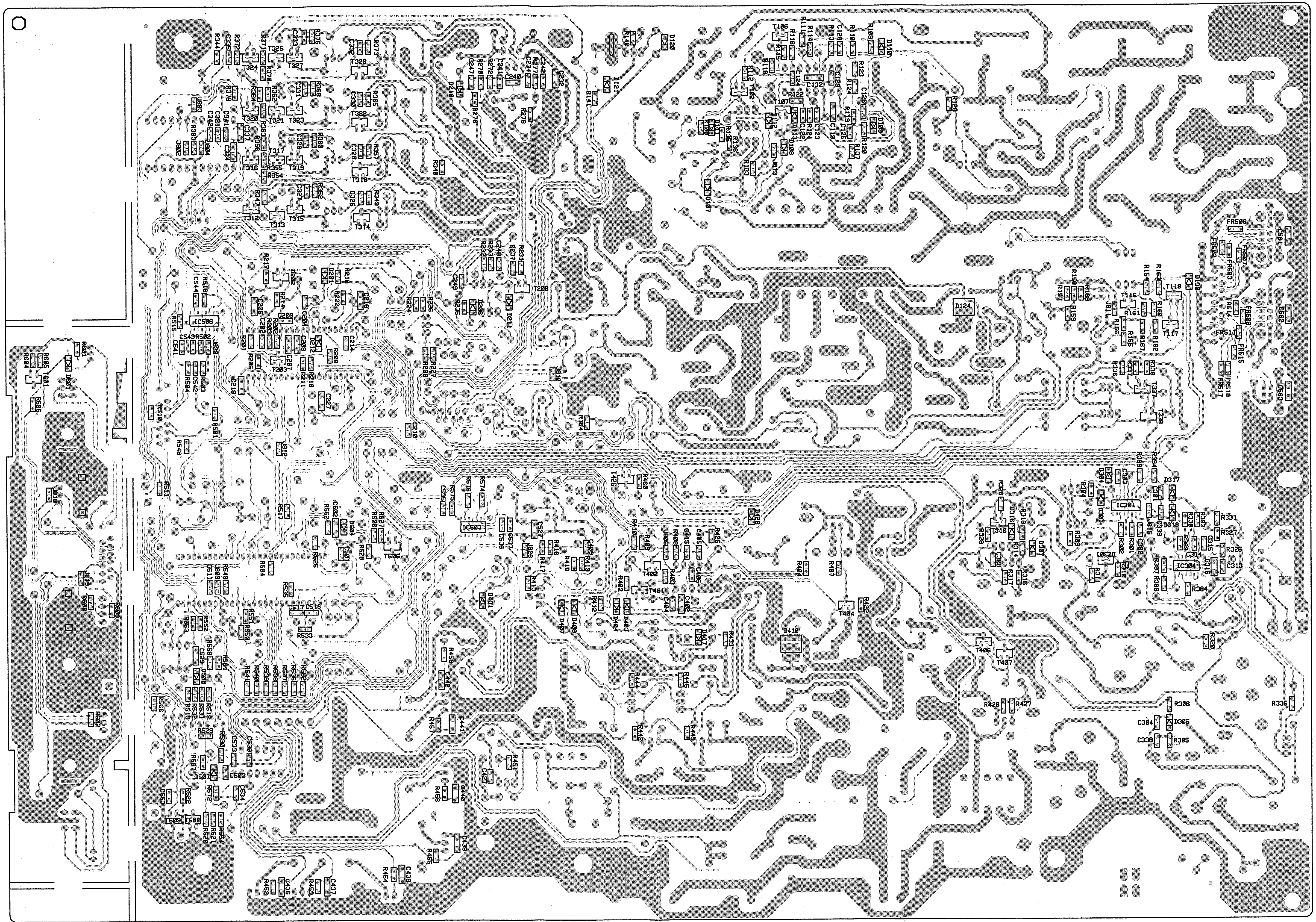
1

D3122E 05.97 Page 7


CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE
HAZARD REPLACE FUSE ONLY WITH SAME TYPE AND RATING
T6.3A H 250V
HEAT SINK
POWER
SYNC
VERT1
VERT2
MENU
PVM
R
SMA193E
SMA208E
SMA209E
SB5140E
D3122E
SMZ053E
SB5142E
KL
JT
PVM
KT
KO
TT
KO
PCB EDGE
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9

SMA193E
1

D3122E 05.97 Page 9


IC301
IC304
IC503
IC506
D124
D410
T208
T401
T402
T404
T406
T407
T310
T337
T338
T116
T117
T118
T312
T313
T314
T315
T316
T317
T318
T319
T320
T321
T322
T323
T324
T325
T326
T327
T506
T508
T509
T601
R335
R336
R305
R306
R426
R427
C304
C338
D305
FR506
FR507
FR508
FR602
FR603
FR614
FR615
FR616
FR617
C561
C562
C563

445T

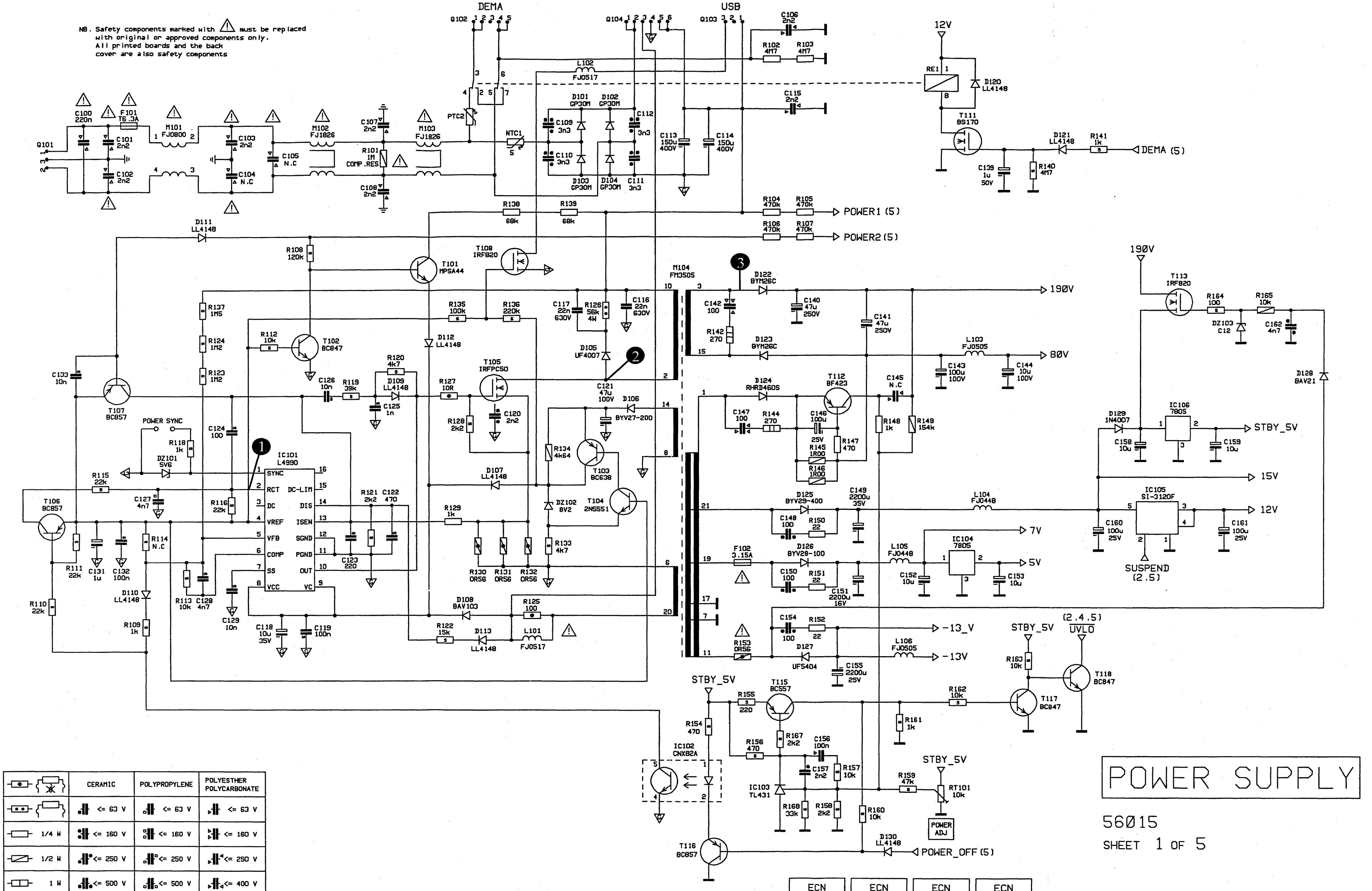
Part Number	Description	PG	Item Number	
AA0633	CF RES 0W25 22R J 2,5–7	1	RA 150 151 152 350 353 358 361 206	
AA0641	CF RES 0W25 47R J 2,5–7	1	RA 236	
AA0649	CF RES 0W25 100R J 2,5–7	1	RA 563 569 577 580 581 374 377 578	
AA0657	CF RES 0W25 220R J 2,5–7	1	RA 225 322 346 348	
AA0665	CF RES 0W25 470R J 2,5–7	1	RA 147 431	
AA0673	CF RES 0W25 1K0 J 2,5–7	1	RA 148 329 395 396 342 398 420 429	
AA0673	CF RES 0W25 1K0 J 2,5–7	1	RA 129 209 223 501 504	
AA0673	CF RES 0W25 1K0 J 2,5–7	1		
AA0681	CF RES 0W25 2K2 J 2,5–7	1	RA 380 381 514 559 339 391	
AA0685	CF RES 0W25 3K3 J 2,5–7	1	RA 411	
AA0687	CF RES 0W25 3K9 J 2,5–7	1	RA 430	
AA0689	CF RES 0W25 4K7 J 2,5–7	1	RA 378 542 543 544 545 546 547 583 303 382	
AA0689	CF RES 0W25 4K7 J 2,5–7	1	RA 212 234 435 535 550 512	
AA0697	CF RES 0W25 10K J 2,5–7	1	RA 216 401 421 450 584	
AA0699	CF RES 0W25 12K J 2,5–7	1	RA 505	
AA0705	CF RES 0W25 22K J 2,5–7	1	RA 517 573 230	
AA0717	CF RES 0W25 68K J 2,5–7	1	RA 138 139	
AA0721	CF RES 0W25 100K J 2,5–7	1	RA 459	
AA0723	CF RES 0W25 120K J 2,5–7	1	RA 449	
AA0725	CF RES 0W25 150K J 2,5–7	1	RA 324 448	
AA0729	CF RES 0W25 220K J 2,5–7	1	RA 228	
AA0731	CF RES 0W25 270K J 2,5–7	1	RA 414	
AA0737	CF RES 0W25 470K J 2,5–7	1	RA 439 221 104 105 106 107	
AA0745	CF RES 0W25 1M0 J 2,5–7	1	RA 440 441	
AA0754	CF RES 0W25 2M2 J 2,5–7	1	RA 385 388	
AA0755	CF RES 0W25 2M7 J 2,5–7	1	RA 390	
AA0761	CF RES 0W25 4M7 J 2,5–7	1	RA 102 103 334 229	
AB0585	NF RES 0W25 0R22 J 2,5–7 CF	1	RA 463 464	
AB0609	NF RES 0W25 2R2 J 2,5–7 CF	1	RA 281	
AB0625	NF RES 0W25 10R J 2,5–7 CF	1	RA 127	
AB0649	NF RES 0W25 100R J 2,5–7 CF	1	RA 125	
AB0795	NF RES 0W5 0R56 J 4–11 CF	2	RA 130 131 153 405 406 132	
AC3366	CHIPRES 5K90 0W1 1% 0805	1	RA 272 277	
AC3388	CHIPRES 10K0 0W1 1% 0805	1	RA 270	
AC4409	CHIPRES 0W1 2R2 5% 0805 2013	1	RA 202	
AC4425	CHIPRES 0W1 10R 5% 0805 2013	1	RA 407 427 442 443 222	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	RA 344	
AC4433	CHIPRES 0W1 22R 5% 0805 2013	1	RA 309 310 316	
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RA 164 305 417 422 452 453 454 455 456 457	
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RA 458 527 340	
AC4455	CHIPRES 0W1 180R 5% 0805 2013	1	RA 347 355 371	
AC4457	CHIPRES 0W1 220R 5% 0805 2013	1	RA 155 317 354 356 370 372 526	
AC4465	CHIPRES 0W1 470R 5% 0805 2013	1	RA 154 156 232 349 352 357 360 365 368	
AC4465	CHIPRES 0W1 470R 5% 0805 2013	1	RA 373 376 419 529 433	
AC4467	CHIPRES 0W1 560R 5% 0805 2013	1	RA 521	
AC4471	CHIPRES 0W1 820R 5% 0805 2013	1	RA 337 451	
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RA 109 141 238 161 210 326 336 404 338 548	
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RA 528 531 549 118 425	
AC4479	CHIPRES 0W1 1K8 5% 0805 2013	1	RA 217	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RA 128 158 167 121 426 306 314 327 418 552	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RA 553 566 575	
AC4483	CHIPRES 0W1 2K7 5% 0805 2013	1	RA 536 537 538 539 540 541 582	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RA 133 237 304 313 444 445 218 120 530 532	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RA 551 562 572 574	
AC4493	CHIPRES 0W1 6K8 5% 0805 2013	1	RA 201	
AC4495	CHIPRES 0W1 8K2 5% 0805 2013	1	RA 511	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 112 113 157 160 162 163	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 224 510 226 502 503 301 302 311 328	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 330 331 384 403 460 567 576	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 205 408 554 211	
AC4501	CHIPRES 0W1 15K 5% 0805 2013	1	RA 122	
AC4505	CHIPRES 0W1 22K 5% 0805 2013	1	RA 110 111 116 115 231 393 399	
AC4505	CHIPRES 0W1 22K 5% 0805 2013	1	RA 402 410 233 409 235	
AC4507	CHIPRES 0W1 27K 5% 0805 2013	1	RA 520	
AC4509	CHIPRES 0W1 33K 5% 0805 2013	1	RA 168 159	
AC4511	CHIPRES 0W1 39K 5% 0805 2013	1	RA 119 416	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	1	RA 203 208 558 386 387 519	
AC4519	CHIPRES 0W1 82K 5% 0805 2013	1	RA 335	
AC4521	CHIPRES 0W1 100K 5% 0805 2013	1	RA 135 412 413 518 525	
AC4521	CHIPRES 0W1 100K 5% 0805 2013	1	RA 239	SMA224
AC4529	CHIPRES 0W1 220K 5% 0805 2013	1	RA 136	
AC4537	CHIPRES 0W1 470K 5% 0805 2013	1	RA 227 522 394 561	
AC4547	CHIPRES 0W1 1M2 5% 0805 2013	1	RA 123 124	
AC4549	CHIPRES 0W1 1M5 5% 0805 2013	1	RA 137	
AC4553	CHIPRES 0W1 2M2 5% 0805 2013	1	RA 389	
AC4561	CHIPRES 0W1 4M7 5% 0805 2013	1	RA 140 214 383	
AC4569	CHIPRES 0W1 10M 5% 0805 2013	1	RA 533	
AD0349	COMPRES 0W5 100R K 4–11	1	RA 321	
AD0373	COMPRES 0W5 1K0 K 4–11	1	RA 332	
AD0397	COMPRES 0W5 10K K 4–11	1	RA 333	
AD0445	COMPRES 0W5 1M0 K 4–11	1	RA 101	
AG3101	MF RES 0W5 1R00 F TC200 2,5–7	1	RA 145 146 279 432	
AB0785	NF RES 0W5 0R22 J 4–11 CF	2	RA 318	
AG3119	MF RES 0W5 1R54 F TC200 2,5–7	1	RA 424	
AG3133	MF RES 0W5 2R15 F TC200 2,5–7	1	RA 423 462	
AG3165	MF RES 0W5 4R64 F TC200 2,5–7	1	RA 434	
AG3233	MF RES 0W5 21R5 F TC50 2,5–7	1	RA 437	
AG3273	MF RES 0W5 56R2 F TC50 2,5–7	1	RA 315	
AG3301	MF RES 0W5 100R F TC50 2,5–7	1	RA 341 392	
AG3343	MF RES 0W5 274R F TC50 2,5–7	1	RA 280	
AG3433	MF RES 0W5 2K15 F TC50 2,5–7	1	RA 343	

Part Number	Description	PG	Item Number	
AG3465	MF RES 0W5 4K64 F TC50 2,5–7	1	RA 134 446 447	
AG3473	MF RES 0W5 5K62 F TC50 2,5–7	1	RA 345	
AG3477	MF RES 0W5 6K19 F TC50 2,5–7	1	RA 204	
AG3489	MF RES 0W5 8K25 F TC50 2,5–7	1	RA 307	
AG3501	MF RES 0W5 10K0 F TC50 2,5–7	1	RA 271 165	
AG3519	MF RES 0W5 15K4 F TC50 2,5–7	1	RA 461	
AG3543	MF RES 0W5 27K4 F TC50 2,5–7	1	RA 308	
AG3609	MF RES 0W5 121K F TC50 2,5–7	1	RA 323	
AG3619	MF RES 0W5 154K F TC50 2,5–7	1	RA 149	
AG3643	MF RES 0W5 274K F TC50 2,5–7	1	RA 415	
AJ2523	MO RES 2W0 10R J 6–17	2	RA 428	
AJ2763	MO RES 2W0 100R J 6–17	2	RA 351 359 375 436	
AJ2763	MO RES 2W0 100R J 6–17	2	RA 367	SMA225
AJ2863	MO RES 2W0 270R J 6–17	2	RA 142 144	
AJ3425	MO RES 4W0 56K J 9–22	3	RA 126	
AQ2214	TPMET.AA H10 1K0 RM 5X10 6–HOLE	3	RTA 401	
AQ2347	TPMET. H10 10K RM 5X10 6–HOLE	4	RTA 101	
AQ2219	TPMET.AA H10 47K RM 5X10 6–HOLE	3	RTA 301	
AW0079	PTC–THERMISTOR 18R/25'C RM5	7	PTCA 002	
AW0111	NTC–THERMISTOR 5R0/25'C RM5+2,5	7	NTCA 001	
QH0065	RELAY PCB–MOUNTING 12V 5A/250V	12	REA 001	
CA0324	CERCAP Y5P 100P K 1KV Y5 D8 L	2	CA 148 150 154 323 424 425 446	
CB0418	CERCAP N150 22P J 500V Y5: D8	1	CA 532	
CC0170	CERCAP Y5P 470P K 500V Y5: D8	1	CA 419	
CC0240	CERCAP Y5P 2N2 K 500V Y5: D9	1	CA 120 157 318 322 426	
CC0513	CERCAP Y5V 3N3 S 1KV Y7,5 D14	2	CA 109 110 111 112 410	
CC0530	CERCAP Z5U 4N7 S 500V Y5: D9	1	CA 162	
CC0772	CERCAP Z5V 10N Z 50V Y5: D8	1	CA 334	
CE0081	X2–CAP 220N K 250VAC Y20 121725	8	CA 100	
CE0116	Y–CAP 2N2 M 400VAC Y12,5 SDPJ16	4	CA 101 102 106 107 108 115	
CB3133	CHIPCERCAP NP0 22P 50V J 0805	1	CA 339	
CB3137	CHIPCERCAP NP0 33P 50V J 0805	1	CA 517 518	
CB3141	CHIPCERCAP NP0 47P 50V J 0805	1	CA 534 248 533	
CB3145	CHIPCERCAP NP0 68P 50V J 0805	1	CA 302 536	
CB3151	CHIPCERCAP NP0 100P 50V J 0805	1	CA 124 301 303 313 535	
CB3159	CHIPCERCAP NP0 220P 50V J 0805	1	CA 123 427	
CB3163	CHIPCERCAP NP0 330P 50V J 0805	1	CA 314 501	
CB3167	CHIPCERCAP NP0 470P 50V J 0805	2	CA 122 406 409	
CB3171	CHIPCERCAP NP0 680P 50V J 0805	2	CA 209	
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	3	CA 242 308 321 210 125	
CC0530	CERCAP Z5U 4N7 S 500V Y5: D9	1	CA 420	
CC3240	CHIPCERCAP X7R 2N2 10% 50V 0805	1	CA 405	
CC3260	CHIPCERCAP X7R 3N3 10% 50V 0805	1	CA 249	
CC3280	CHIPCERCAP X7R 4N7 10% 50V 0805	1	CA 234 338 415 128	
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CA 126 129 335 204 214 241 304 341 404 511 553	
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CA 503 542 543	
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CA 133	SMA224
CC3360	CHIPCERCAP X7R 22N 10% 50V 0805	1	CA 202	
CC4400	CHIPCAP X7R 47N K 50V 1206	2	CA 207 208 502	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CA 119 132 216 227 232 316 324 337 402 436	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CA 437 438 439 440 441 442 529 206 218	
CE2435	IMPCAP 15N J 400V Y10 061113	3	CA 429	
CE2671	IMPCAP 33N J 400V Y15 061118	4	CA 443 430	
CE2802	IMPCAP 51N J 400V Y15 081418	3	CA 421 422 423	
CE2852	IMPCAP 68N J 400V Y15 081418	4	CA 431	
CE2931	IMPCAP 100N J 250V Y15 081418	4	CA 306	
CE2964	IMPCAP 150N K 250V Y15 091518	5	CA 432	
CE3063	IMPCAP 330N J 250V Y22,5 111928	5	CA 433	
CE3163	IMPCAP 680N J 250V Y22,5 112128	7	CA 434	
CE3223	"IMPCAP 1U2 J 250V""G""Y22,5 091928"	7	CA 435	
CE0522	PCACAP MKC 100N J 63V Y5: 040808	4	CA 413	
CE2004	IMPCAP 100P K 1K6V Y15 051118	3	CA 142 147	
CE2094	IMPCAP 820P K 1K5V Y15 061218	4	CA 307	
CE2196	IMPCAP 2N2 J 2KV Y22,5 081628	6	CA 416 417	
CE2671	IMPCAP 33N J 400V Y15 061118	4	CA 418	
CG2663	PPRCAP KP 4N7 H 63V Y5: 060808	4	CA 127 408	
CK0165	PESCAP MKT 22N K 630V Y10 061213	2	CA 116 117	
CK0341	PESCAP MKT 220N K 100V Y10 051113	3	CA 233	
CK1388	PESCAP MKT 10N K 250V Y7,5 040911	2	CA 305 407	
CK1546	PESCAP MKT 47N K 100V Y7,5 040911	2	CA 246	
CK2545	PESCAP 47N K 63V Y5: 030708	2	CA 312	
CK2626	PESCAP MKT 100N K 63V Y5: 030808	2	CA 156 336	
CK2663	PESCAP MKT 150N J 63V Y5: 040908	3	CA 225	
CK2704	PESCAP MKT 220N K 63V Y5: 040908	3	CA 551	
CK2784	PESCAP MKT 470N K 63V Y5: 051008	3	CA 228	
CK2864	PESCAP MKT 1U0 K 50V Y5:061108!	5	CA 319 403	
CN0118	ELCAP 150U M 400V R10 SNAP 25X40	16	CA 113 114	
CN0204	ELCAP 2U2 M 50V RM5 : 6*12	1	CA 320 444 445 509 519 520 521 523 524 528	
CN0819	ELCAP'2200U M 25V RM7,5 105'17X38	5	CA 149 151 155	
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	2	CA 139 317 515 131 212	
CN2027	ELCAP 47U M 50V RM5: 105' 9X12	2	CA 205 226	
CN2029	ELCAP 4U7 M 100V RM5: 105' 6X12	3	CA 245	SMA225
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	1	CA 152 153 158 159 516 401 311	
CN2037	ELCAP 10U M 160V RM5 105' 11X21	4	CA 144	
CN2228	ELCAP 4U7 M 200V RM5 105' 10X12,5	5	CA 245	SMA224
CN2461	ELCAP– 47U M 100V RM5 105, 10X16	4	CA 121	
CN2543	ELCAP 100U M 50V RM5 105 11X13	2	CA 146 160 161 215 230 428 412 217	
CN2546	ELCAP 100UF M 100V RM5 105' 14X21	5	CA 143	
CN2553	ELCAP 0U47F M 50V RM5: 105' 6X12	1	CA 211 552	
CN2566	ELCAP 4U7F M 50V RM5: 105'6X12MM	2	CA 203 325	
CN2581	ELCAP 220U M 35V RM5 105 11X13	3	CA 229 231	

Part Number	Description	PG	Item Number		
CN3206	ELCAP 10U M 50V RM5 105' 8X14	3	CA	118	
CN3250	ELCAP, 47U M 250V RM7,5 105'16X25	5	CA	140 141	
CN3312	ELCAP 100U M 250V RM7.5 105'18X36	9	CA	411	
CN3402	ELCAP,1000U M 16V RM5 +105'13X34	12	CA	414	
FJ0274	CHOKE 1,0UH	2	LA	407	
FJ0448	CHOKE 13UH FERRITE 2X15	2	LA	104 105	
FJ0505	CHOKE 15UH 5% TAPED AXIAL	2	LA	103 106	
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	2	LA	101	
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	2	LA	102	SMA225
FJ0733	LEAD INDUCTOR 56UH 10 %	7	LA	401 402 406	
FJ0735	LEAD INDUCTOR 82UH 10% Y=5MM	7	LA	405	
FJ0800	EMI/RFI CHOKE 60MH 3A(AC)	14	MA	101	
FM0636	FLYBACK TRAFO 30..120KHZ 445T	38	MA	301	
FJ1826	INPUT CHOKE E30/7 2X6,9 MH	12	MA	102 103	
FM2560	DYNAMIC FOCUS TRAFO E20/6 445R	12	MA	404	
FM2569	CENTERING COIL E30/7 1.32UH 445T	12	MA	403	
FM2570	DRIVER TRAFO E20/6 N67 17.2U 445T	12	MA	402	
FM2571	INPUT TRAFO ETD34 N87 382UH 445T	20	MA	401	
FM3505	SMPS-TRAFO ETD49 N67 445T	19	MA	104	
FU0721	FIXED LINEARITY COIL N-S 445T	8	LA	403	
FU0722	FIXED LINEARITY COIL S-N 445T	15	LA	404	
JF0025	DI 1N4148 75V 200MA 4N	1	DA	204 208 209 401 402 406 302 303	
JF0025	DI 1N4148 75V 200MA 4N	1	DA	429 213 214	
JF0060	DI 1N4002 100V 1A	1	DA	207	
JF0067	DI 1N4007 1000V 1A	1	DA	129	
JF0206	SCHOTTKY RECTIFIER 30V 1A 1N5818	4	DA	405	
JF0072	DI BAV21 200V 250MA 50N	1	DA	128 315 432	
JF0072	DI BAV21 200V 250MA 50N	1	DA	205	
JF0096	DI BYV28-100 100V 3.5A 30N	7	DA	126 413 421 422	
JF0166	DIODE BYM26C 600V 2.3A SOD-64	6	DA	122 123	
JF0171	DI BYV29-400 400V 8A 50NS TO-220	9	DA	125	
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	4	DA	105 409	
JF0033	DI UF5404 400V 3A 50NS DO201AD	4	DA	127	
JF0034	DI UF5406 600V 3A 75N	9	DA	306	
JF0073	DI RGP10G 400V 1A 150N	2	DA	418 419 420 427 416 423 424	
JF0104	DI BYV27-200 200V 2A 25N SOD57	3	DA	411 412 106 430	
JF0107	DI BYV26C 600V 1A 30N	5	DA	426	
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DA	407 408 431 108	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA	107 109 110 120 121 201 206 210 211 301	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA	304 305 307 316 317 318 403 404 212	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA	504 507 508 417 428 111 130 112 113	
JF4011	SCHOTTKY BARRIER 30V 200MA SOT-23	3	DA	202	
JF4101	DI RHRD460S 600V 4A 30NS TO-252	8	DA	124 410	
JB0044	DI DTV110F 1500V 10A TO220FI	14	DA	414	
JB0047	DI GP30M 1000V 3A 3,0US DO201AD	4	DA	101 102 103 104	
JH0053	ZDI BZX83C5V6 5.6V 0.5W 5%	1	DZA	101	
JH0054	ZDI BZX83C12 12V 0.5W 5%	1	DZA	402 404 405 103	
JH0059	ZDI BZX83C8V2 8.2V 0.5W 5%	1	DZA	102	
JH0169	ZDI BZX55B3V9 3,9V 0,5W 2%	3	DZA	502	
JH0085	ZDI BZX83C22 22V 0.5W 5%	1	DZA	201	
JH0086	ZDI BZX83C4V7 4.7V 0.5W 5%	2	DZA	403 503	
JH4118	ZDI BZX84C12 0.225W 5% SOT-23	2	DZA	301	
JL0062	OPTOCOUPLER CNY17F-2 5,3KV	8	ICA	102	
JM0099	TR BC547B N 45V 100A 200M:	1	TA	301 305 307	
JM0100	TR BC557B P 45V 100A 200M:	1	TA	115 302 306	
JM0202	TR MPSA44 N 400V 300MA TO92	3	TA	101	
JM0203	TR MPSA42 N 300V 500MA TO92	3	TA	415 416	
JM0205	TR BF423 P 250V 25MA 60M:	3	TA	112	
JM0206	TR BF420 N 300V 100MA 60M TO-92:	12	TA	410 417	
JM0227	TR MPS2369 N 15V 200MA 500M	3	TA	207 405	
JM0239	TR BC638 P 60V 1A 50M:	4	TA	103 336	
JM0244	TR BF422 N 250V 25MA 60M: TO92	2	TA	311 425	
JM0252	TR BC639-10 N 100V 1.5A TO92	3	TA	412	
JM0273	TR 2N5551 NPN 160V 0,6A	2	TA	104 205 206	
JM0280	TR 2N5401 P 150V 0.6A 100M	2	TA	411	
JM0285	TR BC637-16 N 40V 1A 60M:	4	TA	339	
JM0334	TR BD135 NPN 45V 1A5 250MHZ TO126	4	TA	328 330 334	
JM0335	TR BD136 PNP 45V 1A5 250MHZ TO126	4	TA	329 331 335	
JM4105	TR BC847B N 45V 0.1A SOT23	4	TA	117 118 203 312 315 316 319 102 337 324	
JM4105	TR BC847B N 45V 0.1A SOT23	4	TA	327 404 406 208 508	
JM4114	TR BC857B P 45V 100MA 150M:	2	TA	106 107 116 509 426 310 313 314 317	
JM4114	TR BC857B P 45V 100MA 150M:	2	TA	318 338 325 326 401 402 407 506	
JM4401	TR BCR141W 50V 0.1A (2X22K)SOT323	2	TA	511 512 513 514 515 516 517	
JM0341	TR BUH1215(435B) N 1500V 19ATO218	19	TA	409	
JS1006	FET BS170 N 60V 500MA	10	TA	111	
JS0019	FET IRF640 N 200V 18A TO220	13	TA	420 421 422 423 424	
JS0019	FET IRF640 N 200V 18A TO220	13	TA	418 419	
JS0026	FET IRFBC40 N 600V 6.0A TO220 AB	12	TA	403	
JS0030	FET IRF620 200V 5A 0.8R TO-220	7	TA	413 414	
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA	113	
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA	108	SMA225
JS0051	FET IRF9540 P 100V 19A 0.2R TO220	14	TA	408	
JS0062	FET IRFPC50 N 600V 11A OR60 TO247	17	TA	105	
JS0063	FET IRFIBE30G N 800V 2,1A 3R0 220	23	TA	304	
LM4406	IC LM324 QUAD OP-AMP SO-14	5	ICA	304	
LM0893	IC 74HC14N 6XINV.SCHMITT-TRIGGER	5	ICA	502	
LM0967	IC SI-3120FA 12V LOWDROP REG 2%	9	ICA	105	
LM4111	IC 4538BT	5	ICA	301	
LM0067	IC UA7805UC +5V REGULATOR TO-220	13	ICA	104 106	
LM4022	IC 74HCT74 DUAL D-FLIP-FLOP SO-14	5	ICA	503	

Part Number	Description	PG	Item Number		
LM0930	IC STV9379 VERT.DEFL.BOOSTER	15	ICA	203	
LM0663	IC TL431 VOLTAGE REFERENCE TO-92	6	ICA	103	
LM0931	IC MAS1012 DYN.CONV.CONTROL IC	21	ICA	303	
LM0957	IC UC3843 CURR.MODE PWM CON.DIP-8	6	ICA	401	
LM0969	IC ST72E75 MONITOR UC DIP56	30	ICA	501	
LM0981	IC M24128 EEPROM 128K (16X8) DIL8	19	ICA	504	
LM0959	IC L4990 PRIMARY CONTROLLER DIP16	10	ICA	101	
LM0962	IC TDA9106A DEFLECTION PROCESSOR	19	ICA	201	
LZ0003	IC-SOCKET 8-POLE DIL SINGLE LEAF	3	ICA	504	
LZ0063	IC-SOCKET 56-POLE DUAL LEAF 1.78	10	ICA	501	
SE2530	POWER SYNC. CABLE 447C	8	MA	301	
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	1		002	
SE2643	VERT. CABLE 445R	6	VA	001 002	
SE2717	MAGN.KENT_N KONPENS.WIRE 445T/Q	7			
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	1	002		
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	JA	802 803 804 805 806 808 809 810	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	JA	811 813 815 818 819 823	
QA0098	CRYSTAL 24.000MHZ FUNDAM. HC-49/U	6	XA	501	
QT0002	SPARK GAP 1,2KV +-500V R=5,0MM	3	GLA	302 303	
QT0207	GLIMM LAMP 95V 6*12,5MM	4	GLA	301	
QT0102	FUSEHOLDER CLIPS 5*20MM R=5,0MM	1	FA	101	
QT0775	FUSE 5*20MM T 6,3A 250V 1500A	3	FA	101	
QT0733	FUSE R=5,0MM T 3,15A 250V IEC127	4	FA	102	
AA0665	CF RES 0W25 470R J 2,5-7	1	RZ	603	
QK1415	CRIPLET CONN FOR 2-SIDED PCB	1			
QK1285	ROW CONN 1X05 5,08/7,62 VERT/LOCK	3	QA	102	
QK1287	PIN STRIP 1X04 8,0/10.0 VERT MALE	3	QA	401	
QK1587	COOLING & SUPP.PART FOR RESISTOR	1	RA	126	
QK1633	ROW CONN 1X03 2,5 V STGLOCK SNAP	2	QA	103	SMA225
QK1650	MAINS CONN MALE 90DEG W/PCB SNAPS	8	QA	101	
QK1701	PICOFLEX HEADER 1X04 1,27MM	3	QA	504	
QK1704	PICOFLEX HEADER 1X10 1,27MM	4	QA	505	
QK1713	USB CONN SERIE-A DOUBLE STACKED	4	QA	507 508	SMA225
QK1714	USB CONN SERIE-B	7	QA	509	SMA225
QK1729	SHROUDED HEADER 8POS 2,5 JST VER	3	QA	302	
QK1731	SHROUDED HEADER 3POS 2,5 JST VER	2	QA	301	
UC1140	COOLING PLATE PN45154 COPPER	2	TA	113 303 304 403 408 420	
UC1140	COOLING PLATE PN45154 COPPER	2	TA		
UC1140	COOLING PLATE PN45154 COPPER	2	ICA	104 105 106	
UC1140	COOLING PLATE PN45154 COPPER	2	DA	125	
UC6564	COOLINGPLATE PN303153	5	TA	105	
UC6564	COOLINGPLATE PN303153	5	ICA	203	
UC6647	COOLING PLATE	9	TA	328 329 330 331 334 335	
UC6664	COOLING PLATE	14	TA	421 422 423 424	
UC6784	COOLING PLATE PN410058 447E	4	DA	124	
UC6912	COOLING PLATE 445T	10	TA	409	
UC6912	COOLING PLATE 445T	10	DA	414	
UC0859	FASTENING SPRING PN44473	2	TA	113 303 304 403 408 420 421 422 423 424	
UC0859	FASTENING SPRING PN44473	2	ICA	104 105 106	
UC0859	FASTENING SPRING PN44473	2	DA	125	
UC6551	FASTENING SPRING	3	DA	414	
UC6551	FASTENING SPRING	3	ICA	203	
UC6552	FASTENING SPRING	3	TA	105 409	
UC6668	FASTENING SPRING TO126	2	TA	328 329 330 331 334 335	
UC6743	SUPPORT	6			
UC6752	WASHER 447E	1	MA	301	
UC6752	WASHER 447E	1			
UC6893	SUPPORT 445P	5			
UJ0125	TIES SST 1 M	1			
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	1	ICA	203	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	1	TA	113 403 408 420 421 422 423 424	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	1	ICA	104 106	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	1	DA	125	
JZ0012	SILICONE INSUL. 22*30*0.22MM	4	TA	105 409	
JZ0017	SILICONE INSUL.10X13X0,22 TO-126	2	TA	328 329 330 331 334 335	
QM1006	PICOFLEX ASSY BI-IDC 16-POS 550MM	12	QA	502	
QM1007	PICOFLEX ASSY BI-IDC 10-POS 500MM	10	QA	501	
WC0353	PT-SCR KB 40X10 WN1447 FE/ZN YELL	1	MA	301	
WC0446	SCREW 2,9X8 FE/ZN	1			
WC0530	SCREW 2,9X10 YELLOW FE/ZN	2	MA	301	
XW0032	DOW CORNING	32	TA	105 409	
XW0032	DOW CORNING	32	DA	414	
XW0032	DOW CORNING	32	ICA	203	
AA0697	CF RES 0W25 10K J 2,5-7	1	RZ	607	
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RZ	604	
AC4457	CHIPRES 0W1 220R 5% 0805 2013	1	RZ	608	
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RZ	602	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RZ	605 609	
AC4465	CHIPRES 0W1 470R 5% 0805 2013	1	RZ	601	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RZ	606	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	1	RZ	610	
AP0191	PMET 10K LIN EVJ02KFB6B14 CCLICK	10	PZ	602 603	
JL0058	LED DUALCOLOR RED/GREEN 3 MM	4	LEDZ	601	
JL0061	LED GREEN MPG3372X 3MM	3	LEDZ	602 603	
JM4105	TR BC847B N 45V 0.1A SOT23	4	TZ	601	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DZ	601	
QG0329	MINIATURE PUSH SWITCH 0.1A 24VDC	10	SWZ	601 602	
QG0401	ENCODER 20PULSE/ 360' WITH SWITCH	14	PZ	601	
QM1034	PICOFLEX ASSY BI-IDC 10-POS 120MM	8	QZ	601	
QM1035	PICOFLEX ASSY BI-IDC 4-POS 120MM	7	QZ	602	

NB. Safety components marked with ⚠ must be replaced
with original or approved components only.
All printed boards and the back
cover are also safety components


DEMA
Q102 1 2 3 4 5
Q104 1 2 3 4 5 6
USB
Q103 3 2 1
C106 2n2
R102 4M7
R103 4M7
12V
RE1
D120 LL4148
T111 BS170
D121 LL4148
R141 1k
DEMA (5)
C139 1u 50V
R140 4M7
L102 FJ0517
C115 2n2
PTC2
NTC1
D101 GP30M
D102 GP30M
C109 3n3
C110 3n3
D103 GP30M
D104 GP30M
C111 3n3
C112 3n3
C113 150u 400V
C114 150u 400V
Q101
C100 220n
F101 T6.3A
C101 2n2
C102 2n2
M101 FJ0800
C103 2n2
C104 N.C
C105 N.C
M102 FJ1826
C107 2n2
R101 1M COMP.RES
C108 2n2
M103 FJ1826
R138 68k
R139 68k
R104 470k
R105 470k
POWER1 (5)
R106 470k
R107 470k
POWER2 (5)
D111 LL4148
R108 120k
T101 MPSA44
T108 IRF820
M104 FM3505
3
D122 BYM26C
C140 47u 250V
C141 47u 250V
190V
C142 100
R142 270
D123 BYM26C
L103 FJ0505
C143 100u 100V
C144 10u 100V
80V
R137 1M5
R124 1M2
R123 1M2
R112 10k
T102 BC847
R135 100k
R136 220k
C117 22n 630V
R126 56k 4W
C116 22n 630V
D112 LL4148
D105 UF4007
2
R120 4k7
D109 LL4148
C126 10n
R119 39k
C125 1n
R127 10R
T105 IRFPC50
C121 47u 100V
D106
BYV27-200
C133 10n
T107 BC857
POWER SYNC
R118 1k
DZ101 5V6
C124 100
1
IC101 L4990
SYNC
RCT
DC
VREF
VFB
COMP
SS
VCC
DC-LIM
DIS
ISEN
SGND
PGND
OUT
VC
R115 22k
C127 4n7
R116 22k
R121 2k2
C122 470
C123 220
R128 2k2
C120 2n2
R134 4k64
T103 BC638
D107 LL4148
DZ102 8V2
T104 2N5551
R129 1k
R130 0R56
R131 0R56
R132 0R56
R133 4k7
T106 BC857
R111 22k
C131 1u
C132 100n
R114 N.C
R113 10k
C128 4n7
C129 10n
D110 LL4148
R110 22k
R109 1k
C118 10u 35V
C119 100n
D108 BAV103
R125 100
R122 15k
D113 LL4148
L101 FJ0517
D124 RHRD460S
T112 BF423
C145 N.C
C147 100
R144 270
C146 100u 25V
R145 1R00
R146 1R00
R147 470
R148 1k
R149 154k
D125 BYV29-400
C149 2200u 35V
C148 100
R150 22
L104 FJ0448
D126 BYV28-100
C150 100
R151 22
C151 2200u 16V
F102 3.15A
L105 FJ0448
C152 10u
IC104 7805
C153 10u
7V
5V
C154 100
R152 22
-13_V
R153 0R56
D127 UF5404
C155 2200u 25V
L106 FJ0505
-13V
190V
T113 IRF820
R164 100
R165 10k
DZ103 C12
C162 4n7
D128 BAV21
D129 1N4007
IC106 7805
C158 10u
C159 10u
STBY_5V
15V
IC105 SI-3120F
C160 100u 25V
C161 100u 25V
12V
SUSPEND (2.5)
STBY_5V
(2.4.5) UVLO
R163 10k
T118 BC847
T117 BC847
R162 10k
R161 1k
STBY_5V
R155 220
T115 BC557
R154 470
IC102 CNX82A
R156 470
R167 2k2
C156 100n
C157 2n2
R157 10k
IC103 TL431
R168 33k
R158 2k2
R160 10k
STBY_5V
R159 47k
RT101 10k
POWER ADJ
D130 LL4148
POWER_OFF (5)
T116 BC857

		CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
		<= 63 V	<= 63 V	<= 63 V
	1/4 W	<= 160 V	<= 160 V	<= 160 V
	1/2 W	<= 250 V	<= 250 V	<= 250 V
	1 W	<= 500 V	<= 500 V	<= 400 V
	2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

POWER SUPPLY

56015

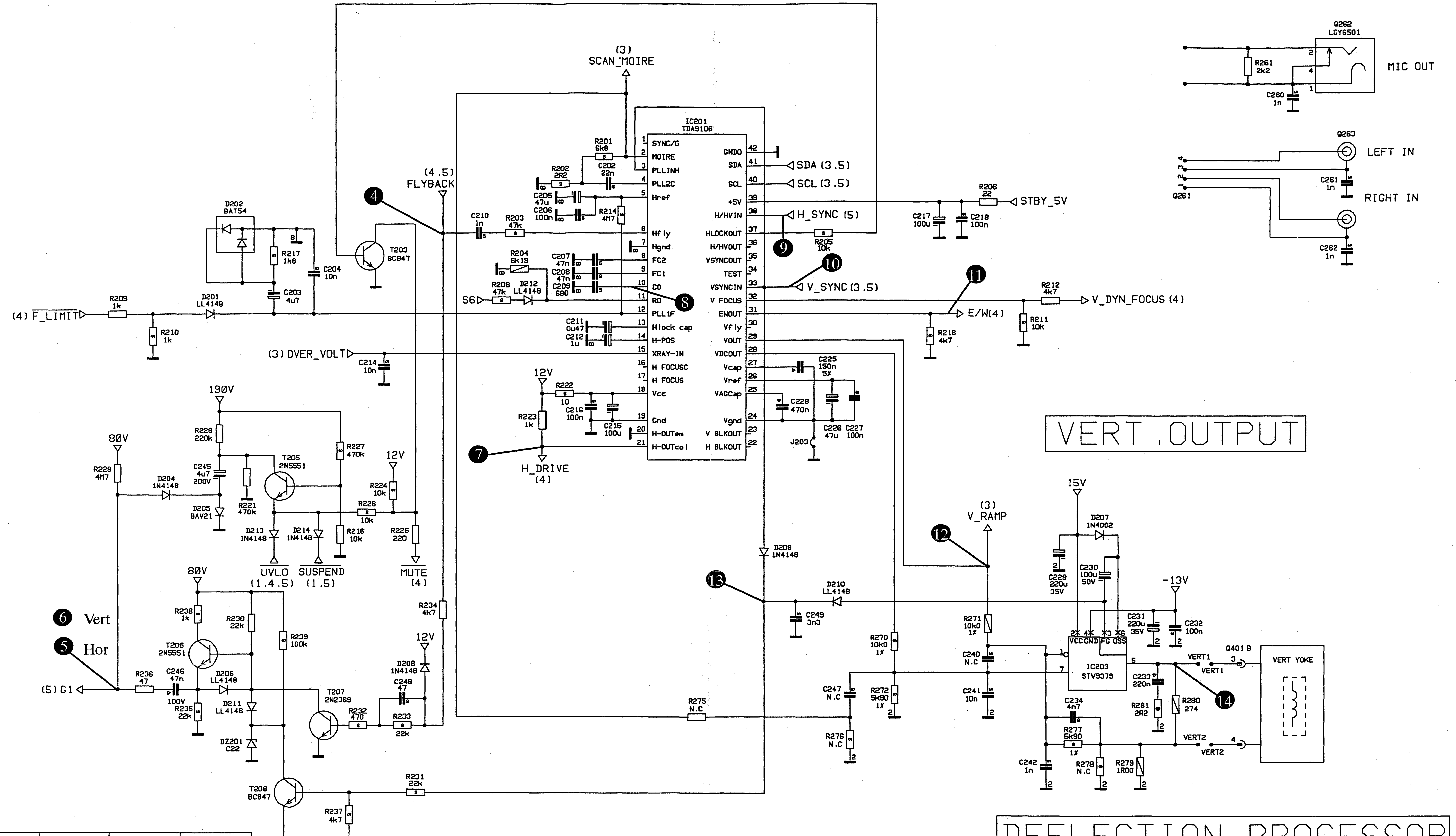
SHEET 1 OF 5

ECN	ECN	ECN	ECN
445U3	445Q29	445T22	446A31

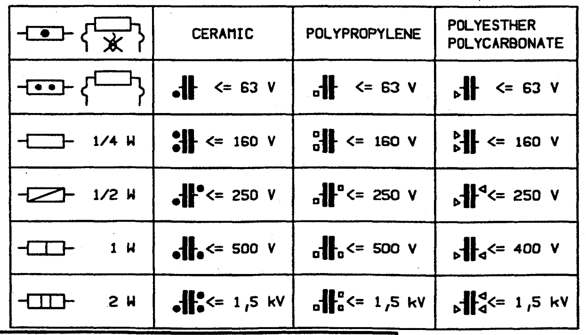
SMA D 2

D3150D 05.98 Page 13

445T


(3) SCAN_MOIRE
IC201 TDA9106
SYNC/G
MOIRE
PLLINH
PLL2C
Href
Hfly
Hgnd
FC2
FC1
CO
RO
PLL1F
Hlock cap
H-POS
XRAY-IN
H FOCUSC
H FOCUS
Vcc
Gnd
H-OUTem
H-OUTcol
GNDD
SDA
SCL
+5V
H/HVIN
HLOCKOUT
H/HVOUT
VSYNCOUT
TEST
VSYNCIN
V FOCUS
EWOUT
Vfly
VOUT
VDCOUT
Vcap
Vref
VAGCap
Vgnd
V BLKOUT
H BLKOUT
SDA (3.5)
SCL (3.5)
STBY_5V
H_SYNC (5)
V_SYNC (3.5)
V_DYN_FOCUS (4)
E/W (4)
(4.5) FLYBACK
(4) F_LIMIT
(3) OVER_VOLT
S6
12V
H_DRIVE (4)
190V
80V
12V
UVLO (1.4.5)
SUSPEND (1.5)
MUTE (4)
Vert
Hor
(5) G1
(3) V_RAMP
15V
-13V
IC203 STV9379
VERT YOKE
Q401 B
VERT1
VERT2
Q262 LGY6501
MIC OUT
Q263
LEFT IN
RIGHT IN
Q261
R201 6k8
R202 2R2
C202 22n
C205 47u
C206 100n
R214 4M7
C210 1n
R203 47k
T203 BC847
R204 6k19
C207 47n
C208 47n
C209 680
R208 47k
D212 LL4148
C211 0u47
C212 1u
D202 BAT54
R217 1k8
C204 10n
C203 4u7
R209 1k
R210 1k
D201 LL4148
C214 10n
R222 10
C216 100n
C215 100u
R223 1k
R206 22
C217 100u
C218 100n
R205 10k
R212 4k7
R211 10K
R218 4k7
C225 150n 5%
C228 470n
C226 47u
C227 100n
J203
R228 220k
C245 4u7 200V
R221 470k
T205 2N5551
R227 470k
R224 10k
R226 10k
R216 10k
R225 220
R229 4M7
D204 1N4148
D205 BAV21
D213 1N4148
D214 1N4148
R238 1k
T206 2N5551
R230 22K
R239 100k
R236 47
C246 47n 100V
R235 22k
D206 LL4148
D211 LL4148
DZ201 C22
T207 2N2369
R232 470
R233 22k
C248 47
D208 1N4148
R234 4k7
T208 BC847
R231 22k
R237 4k7
R275 N.C
D209 1N4148
D210 LL4148
C249 3n3
R270 10k0 1%
R272 5k90 1%
C247 N.C
R276 N.C
R271 10k0 1%
C240 N.C
C241 10n
D207 1N4002
C229 220u 35V
C230 100u 50V
C231 220u 35V
C232 100n
C233 220n
R281 2R2
R280 274
C234 4n7
R277 5k90 1%
R278 N.C
R279 1R00
C242 1n
R261 2k2
C260 1n
C261 1n
C262 1n
④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭

VERT.OUTPUT

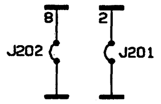


	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

DEFLECTION PROCESSOR

56015

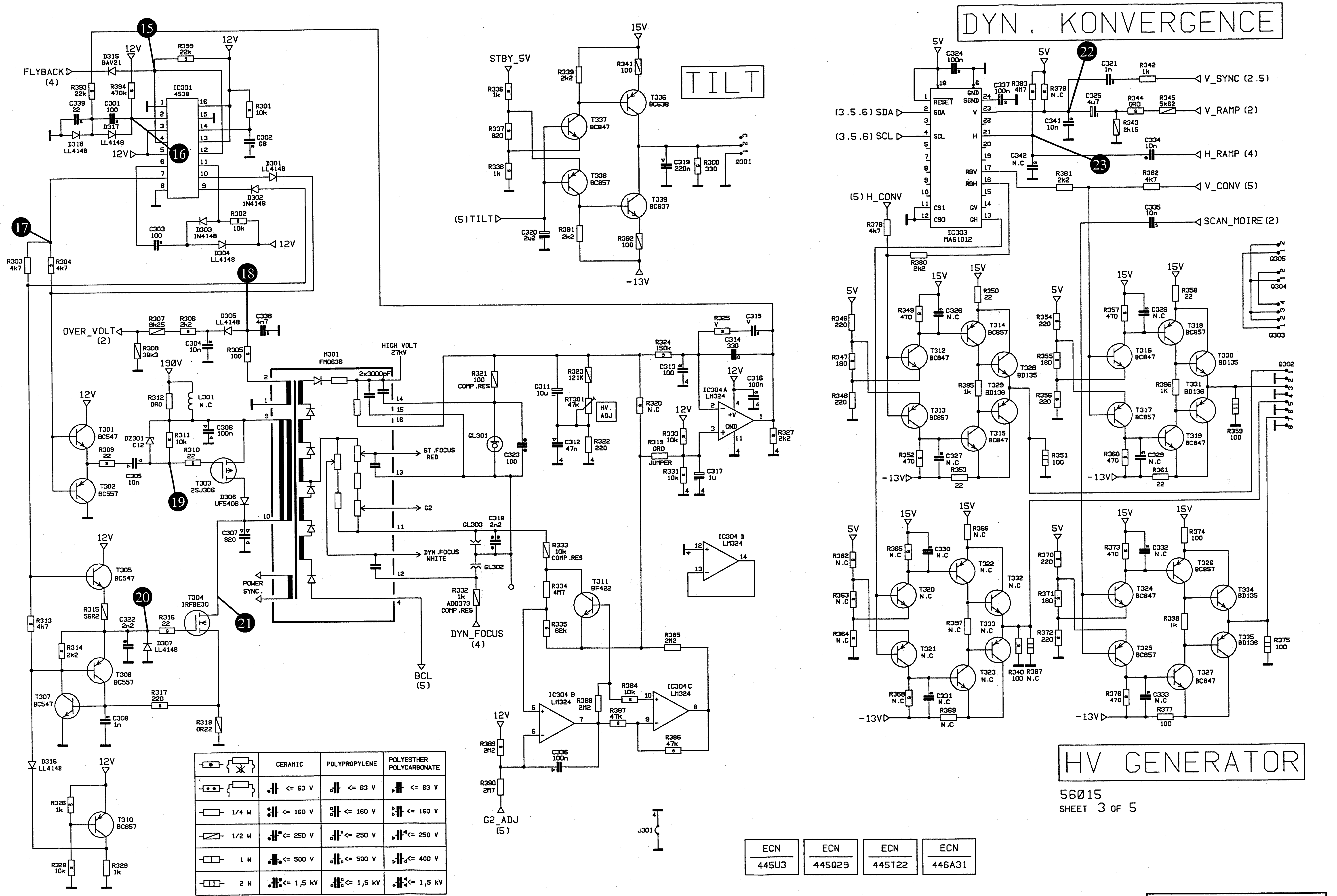
SHEET 2 OF 5



ECN	ECN	ECN	ECN
445U3	445Q29	445T22	446A31

DYN. KONVERGENCE

TILT



FLYBACK (4)
12V
R399 22k
D315 BAV21
R393 22k
R394 470k
IC301 4538
R301 10k
C302 68
C339 22
C301 100
D317 LL4148
D318 LL4148
12V
D301 LL4148
D302 1N4148
C303 100
D303 1N4148
R302 10k
D304 LL4148
12V
R303 4k7
R304 4k7
OVER_VOLT (2)
R307 8k25
R306 2k2
D305 LL4148
C338 4n7
R308 38k3
C304 10n
R305 100
190V
R312 0R0
L301 N.C
R311 10k
C306 100n
DZ301 C12
R309 22
C305 10n
R310 22
T303 2SJ306
D306 UF5406
C307 820
T301 BC547
T302 BC557
12V
T305 BC547
R315 5R6
C322 2n2
R316 22
D307 LL4148
T304 IRFBE30
R313 4k7
R314 2k2
T306 BC557
T307 BC547
R317 220
C308 1n
R318 0R22
D316 LL4148
12V
R326 1k
T310 BC857
R328 10k
R329 1k
M301 FM0636
HIGH VOLT 27kV
2x3000pF
POWER SYNC.
ST.FOCUS RED
G2
DYN.FOCUS WHITE
BCL (5)
GL303
C318 2n2
GL302
R332 1k AD0373 COMP.RES
DYN_FOCUS (4)
R321 100 COMP.RES
GL301
C323 100
STBY_5V
R336 1k
R337 820
R338 1k
(5)TILT
C320 2u2
R339 2k2
15V
R341 100
T336 BC638
T337 BC847
T338 BC857
T339 BC637
R391 2k2
R392 100
-13V
C319 220n
R300 330
Q301
C311 10u
R323 121K
RT301 47k
HV. ADJ
C312 47n
R322 220
R324 150k
R325 V
C315 V
C314 330
C313 100
12V
C316 100n
IC304 A LM324
R327 2k2
R320 N.C
12V
R330 10k
R319 0R0 JUMPER
R331 10k
C317 1u
IC304 D LM324
R333 10k COMP.RES
R334 4M7
T311 BF422
R335 82k
R385 2M2
R384 10k
IC304 B LM324
R388 2M2
IC304 C LM324
R387 47k
R386 47k
12V
R389 2M2
C336 100n
R390 2M7
G2_ADJ (5)
J301
5V
C324 100n
RESET SDA SCL CS1 CS0
GND SGND V H RBV RBH CV CH
IC303 MAS1012
(3.5.6) SDA
(3.5.6) SCL
C337 100n
R383 4M7
5V
R379 N.C
C321 1n
R342 1k
V_SYNC (2.5)
C341 10n
C325 4u7
R344 0R0
R345 5K62
V_RAMP (2)
R343 2k15
C342 N.C
C334 10n
H_RAMP (4)
R381 2k2
R382 4k7
V_CONV (5)
(5) H_CONV
R378 4k7
C335 10n
SCAN_MOIRE (2)
R380 2k2
Q305
Q304
Q303
Q302
R346 220
R347 180
R348 220
R349 470
C326 N.C
R350 22
T312 BC847
T314 BC857
T328 BD135
R395 1k
T329 BD136
T313 BC857
T315 BC847
R352 470
C327 N.C
R353 22
R351 100
R354 220
R355 180
R356 220
R357 470
C328 N.C
R358 22
T316 BC847
T318 BC857
T330 BD135
R396 1K
T331 BD136
T317 BC857
T319 BC847
R359 100
R360 470
C329 N.C
R361 22
R362 N.C
R363 N.C
R364 N.C
R365 N.C
C330 N.C
R366 N.C
T320 N.C
T322 N.C
T332 N.C
R397 N.C
T333 N.C
T321 N.C
T323 N.C
R368 N.C
C331 N.C
R369 N.C
R340 100
R367 N.C
R370 220
R371 180
R372 220
R373 470
C332 N.C
R374 100
T324 BC847
T326 BC857
T334 BD135
R398 1k
T335 BD136
R375 100
T325 BC857
T327 BC847
R376 470
C333 N.C
R377 100
15 16 17 18 19 20 21 22 23

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

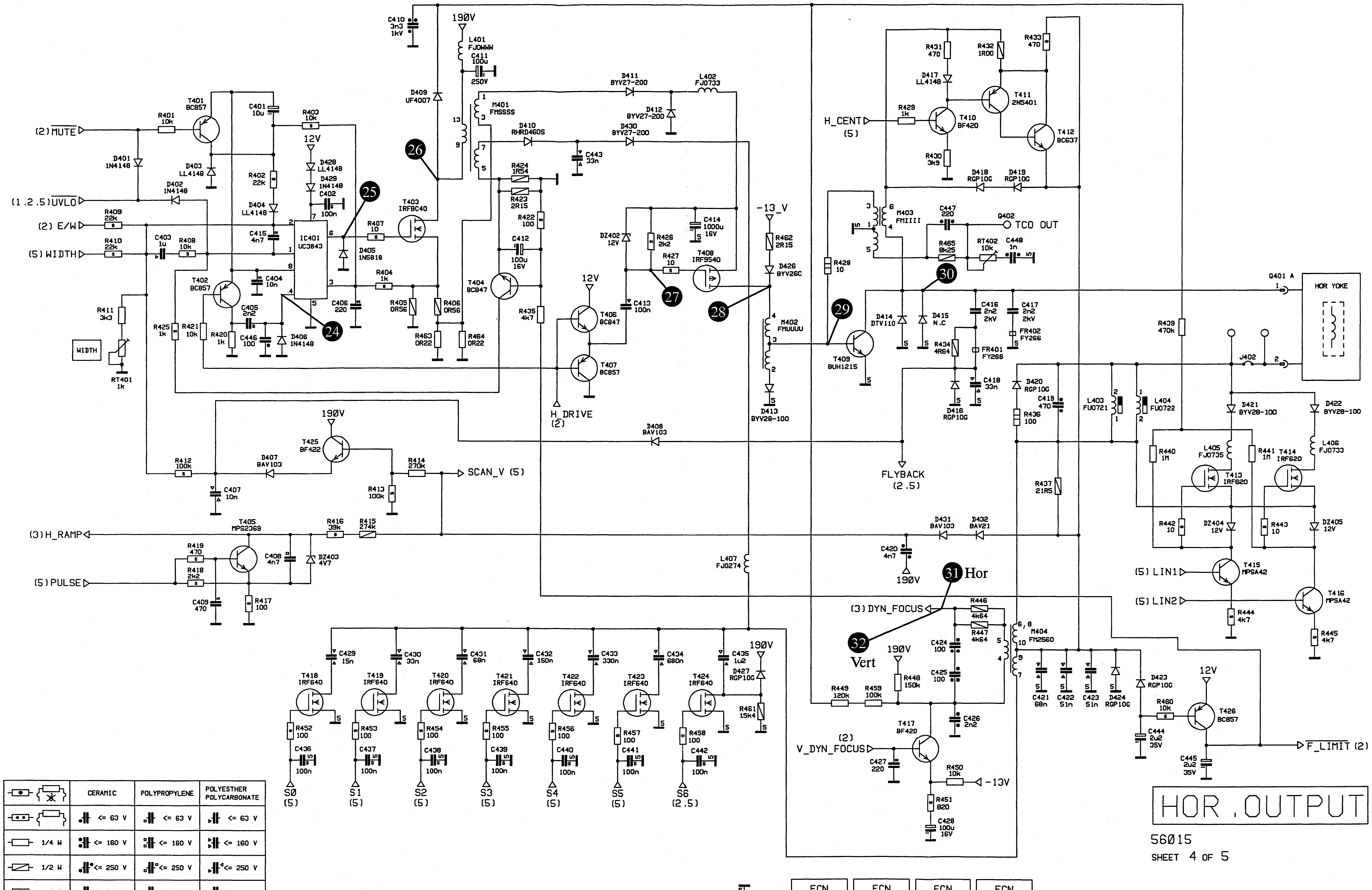
HV GENERATOR

56015
SHEET 3 OF 5

ECN	ECN	ECN	ECN
445U3	445Q29	445T22	446A31

SMA D 2
D3150D 05.98 Page 15

445T


(2) MUTE
(1.2.5) UVLO
(2) E/W
(5) WIDTH
WIDTH
RT401 1k
R411 3k3
R401 10k
T401 BC857
D401 1N4148
D403 LL4148
D402 1N4148
R409 22k
R410 22k
C403 1u
R408 10k
R425 1k
R421 10k
R420 1k
T402 BC857
C401 10u
R403 10k
12V
D428 LL4148
D429 1N4148
C402 100n
R402 22k
D404 LL4148
C415 4n7
IC401 UC3843
C404 10n
C405 2n2
C446 100
D406 1N4148
C406 220
D405 1N5818
R407 10
R404 1k
R405 0R56
R406 0R56
R463 0R22
R464 0R22
T403 IRFBC40
T404 BC847
C410 3n3 1kV
190V
L401 FJ0WWW
C411 100u 250V
D409 UF4007
M401 FMSSSS
D410 RHRD460S
D411 BYV27-200
D412 BYV27-200
D430 BYV27-200
L402 FJ0733
C443 33n
R424 1R54
R423 2R15
R422 100
C412 100u 16V
R435 4k7
12V
T406 BC847
T407 BC857
H_DRIVE (2)
DZ402 12V
R426 2k2
R427 10
C414 1000u 16V
T408 IRF9540
C413 100n
-13_V
R462 2R15
D426 BYV26C
M402 FMUUUU
D413 BYV28-100
190V
T425 BF422
R412 100k
D407 BAV103
C407 10n
R414 270k
R413 100k
SCAN_V (5)
D408 BAV103
(3) H_RAMP
T405 MPS2369
R416 39k
R415 274k
R419 470
R418 2k2
C408 4n7
DZ403 4V7
(5) PULSE
C409 470
R417 100
L407 FJ0274
C429 15n
C430 33n
C431 68n
C432 150n
C433 330n
C434 680n
C435 1u2
190V
D427 RGP10G
R461 15k4
T418 IRF640
T419 IRF640
T420 IRF640
T421 IRF640
T422 IRF640
T423 IRF640
T424 IRF640
R452 100
R453 100
R454 100
R455 100
R456 100
R457 100
R458 100
C436 100n
C437 100n
C438 100n
C439 100n
C440 100n
C441 100n
C442 100n
S0 (5)
S1 (5)
S2 (5)
S3 (5)
S4 (5)
S5 (5)
S6 (2.5)
H_CENT (5)
R431 470
R432 1R00
R433 470
D417 LL4148
R429 1k
T410 BF420
T411 2N5401
T412 BC637
R430 3k9
D418 RGP10G
D419 RGP10G
M403 FMIIII
C447 220
Q402
TCO OUT
R465 8k25
RT402 10k
C448 1n
R428 10
D414 DTV110
D415 N.C
C416 2n2 2kV
C417 2n2 2kV
FR402 FY266
FR401 FY266
R434 4R64
T409 BUH1215
D416 RGP10G
C418 33n
FLYBACK (2.5)
Q401 A
HOR YOKE
R439 470k
J402
D420 RGP10G
C419 470
R436 100
L403 FU0721
L404 FU0722
D421 BYV28-100
D422 BYV28-100
L405 FJ0735
R440 1M
R441 1M
T413 IRF620
T414 IRF620
L406 FJ0733
R437 21R5
D431 BAV103
D432 BAV21
C420 4n7
190V
R442 10
DZ404 12V
R443 10
DZ405 12V
(5) LIN1
T415 MPSA42
(5) LIN2
T416 MPSA42
R444 4k7
R445 4k7
(3) DYN_FOCUS
R446 4k64
R447 4k64
M404 FM2560
C424 100
C425 100
190V
R448 150k
R449 120k
R459 100k
C426 2n2
T417 BF420
(2) V_DYN_FOCUS
C427 220
R450 10k
-13V
R451 820
C428 100u 16V
C421 68n
C422 51n
C423 51n
D424 RGP10G
D423 RGP10G
12V
R460 10k
T426 BC857
C444 2u2 35V
C445 2u2 35V
F_LIMIT (2)
J401
24
25
26
27
28
29
30
31 Hor
32 Vert

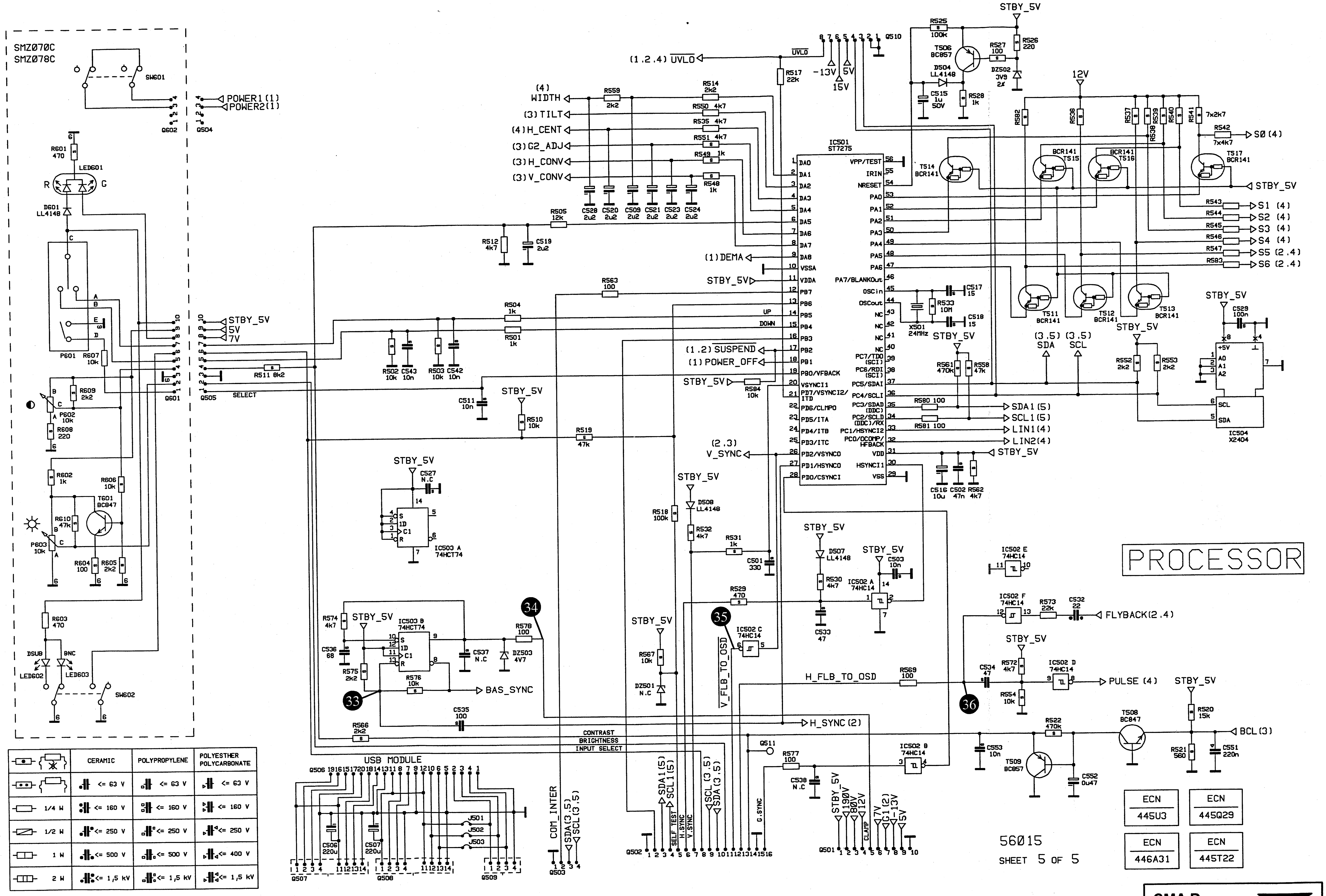
	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

HOR.OUTPUT

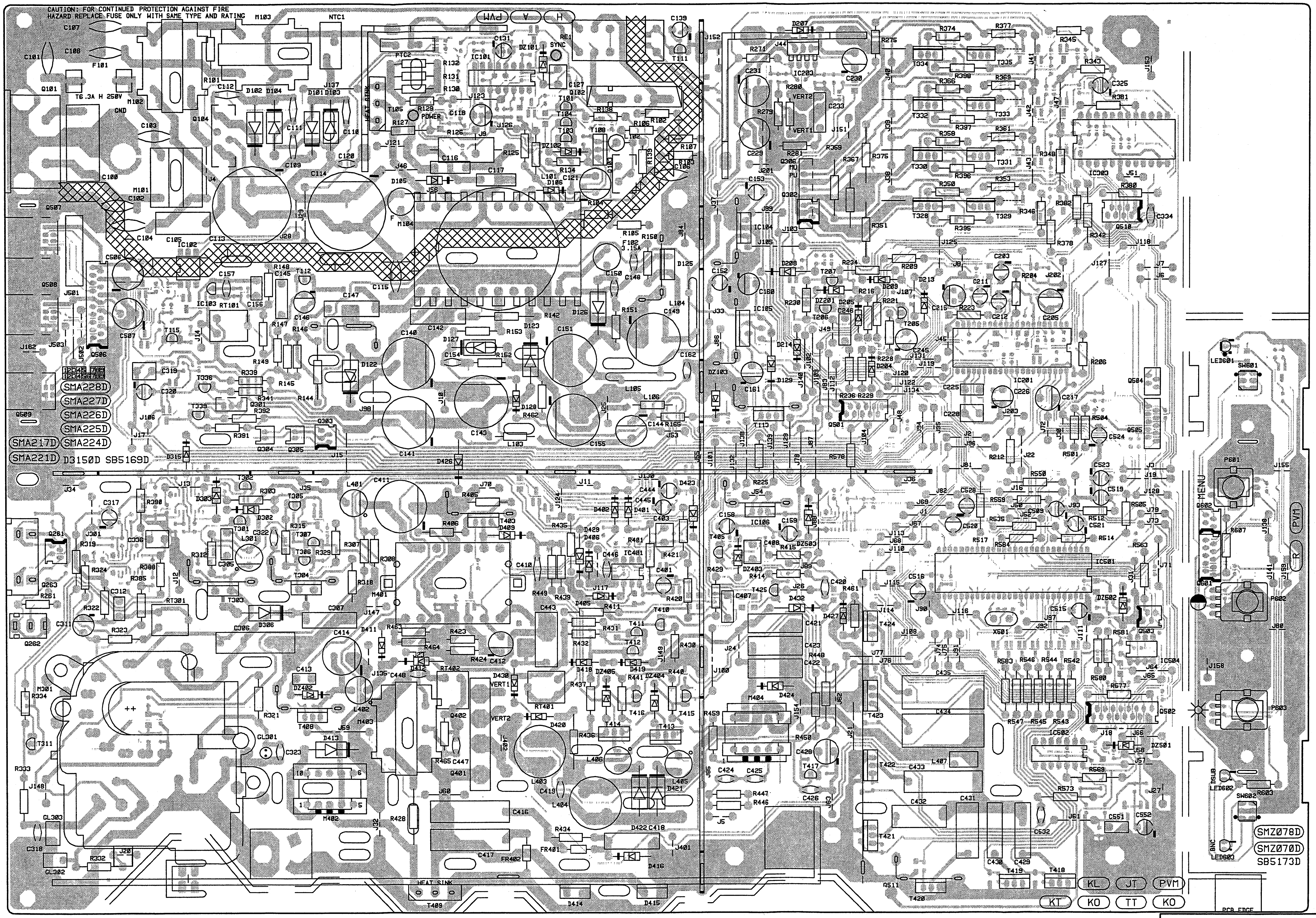
56015

SHEET 4 OF 5

ECN	ECN	ECN	ECN
445U3	445Q29	445T22	446A31

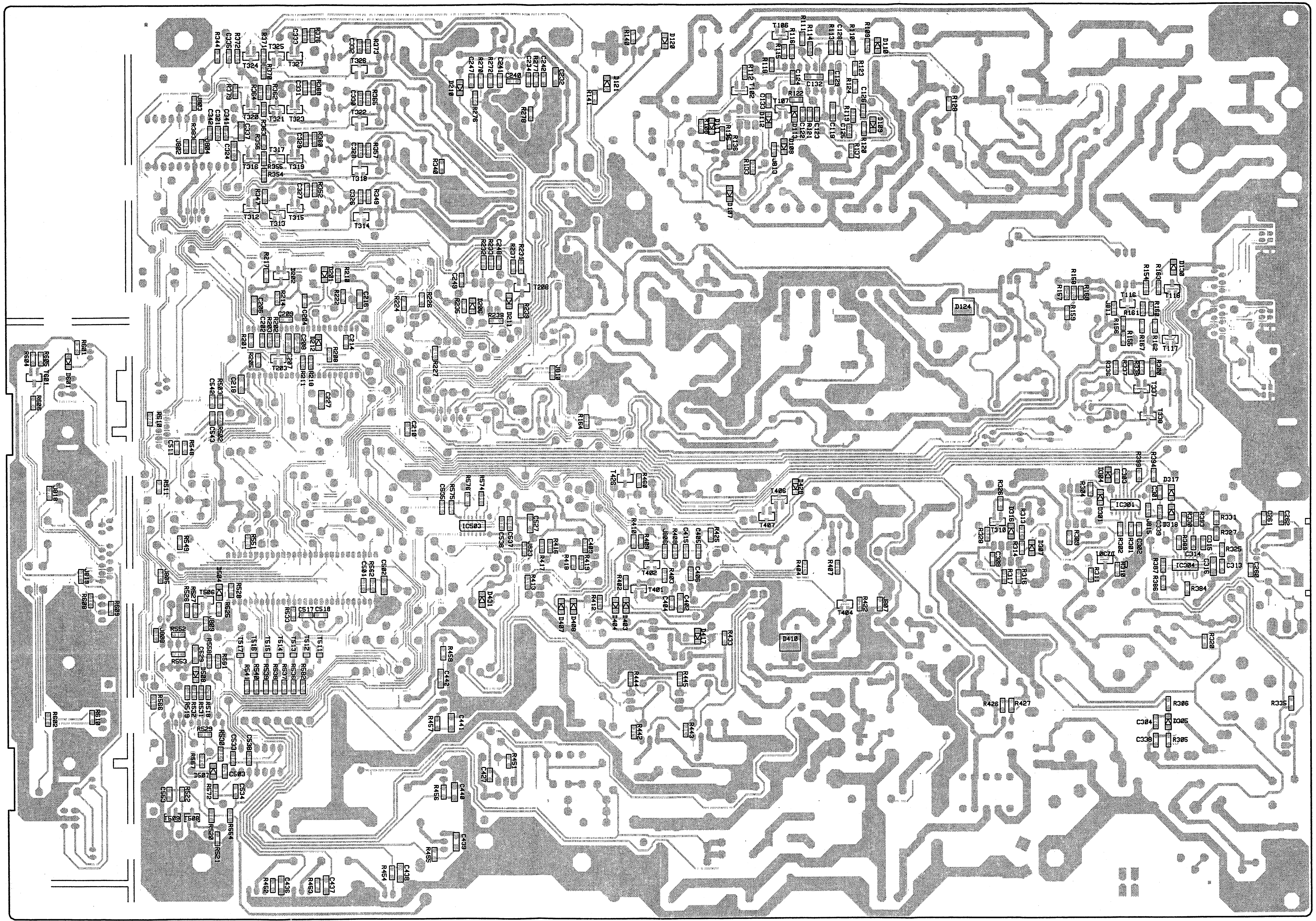

SMZ070C
SMZ078C
SW601
POWER1(1)
POWER2(1)
Q602
Q504
R601 470
LED601
D601 LL4148
P601
R607 10k
R609 2k2
P602 10k
R608 220
R602 1k
R606 10k
T601 BC847
R610 47k
P603 10k
R604 100
R605 2k2
R603 470
DSUB
BNC
LED602
LED603
SW602
Q601
Q505
SELECT
STBY_5V
5V
7V
R511 8k2
R502 10k
C543 10n
R503 10k
C542 10n
R504 1k
R501 1k
UP
DOWN
C511 10n
R510 10k
R519 47k
R563 100
R505 12k
R512 4k7
C519 2u2
(4) WIDTH
(3) TILT
(4) H_CENT
(3) G2_ADJ
(3) H_CONV
(3) V_CONV
R559 2k2
R514 2k2
R550 4k7
R535 4k7
R551 4k7
R549 1k
R548 1k
C528 2u2
C520 2u2
C509 2u2
C521 2u2
C523 2u2
C524 2u2
(1.2.4) UVLO
Q510
R517 22k
-13V
5V
15V
R525 100k
T506 BC857
D504 LL4148
R527 100
DZ502 3V9 2%
R526 220
C515 1u 50V
R528 1k
12V
IC501 ST7275
DA0 DA1 DA2 DA3 DA4 DA5 DA6 DA7 DA8 VSSA VDDA PB7 PB6 PB5 PB4 PB3 PB2 PB1 PB0/VFBACK VSYNCI1 PD7/VSYNCI2/ITD PD6/CLMPO PD5/ITA PD4/ITB PD3/ITC PD2/VSYNCO PD1/HSYNCO PD0/CSYNCI
VPP/TEST IRIN NRESET PA0 PA1 PA2 PA3 PA4 PA5 PA6 PA7/BLANKOut OSCin OSCout NC NC NC NC PC7/TDO (SCI) PC6/RDI (SCI) PC5/SDAI PC4/SCLI PC3/SDAD (DDC) PC2/SCLD (DDC)/RX PC1/HSYNCI2 PC0/OCOMP/HFBACK VDD HSYNCI1 VSS
(1) DEMA
(1.2) SUSPEND
(1) POWER_OFF
R584 10k
(2.3) V_SYNC
C517 15
R533 10M
C518 15
X501 24MHz
R561 470k
R558 47k
R580 100
R581 100
SDA1(5)
SCL1(5)
LIN1(4)
LIN2(4)
C516 10u
C502 47n
R562 4k7
(3.5) SDA
(3.5) SCL
R582
R536
R537
R538
R539
R540
R541
7x2k7
R542 7x4k7
S0(4)
T514 BCR141
BCR141 T515
BCR141 T516
T517 BCR141
R543 S1 (4)
R544 S2 (4)
R545 S3 (4)
R546 S4 (4)
R547 S5 (2.4)
R583 S6 (2.4)
T511 BCR141
T512 BCR141
T513 BCR141
C529 100n
R552 2k2
R553 2k2
+5V A0 A1 A2 SCL SDA
IC504 X2404
C527 N.C
IC503 A 74HCT74
R518 100k
D508 LL4148
R532 4k7
R531 1k
C501 330
D507 LL4148
R530 4k7
C503 10n
IC502 A 74HC14
C533 47
PROCESSOR
IC502 E 74HC14
IC502 F 74HC14
R573 22k
C532 22
FLYBACK(2.4)
R574 4k7
IC503 B 74HCT74
C536 68
R575 2k2
R576 10k
C537 N.C
DZ503 4V7
R578 100
BAS_SYNC
34
33
35
R529 470
IC502 C 74HC14
V_FLB_TO_OSD
R567 10k
DZ501 N.C
H_FLB_TO_OSD
R569 100
C534 47
R572 4k7
IC502 D 74HC14
PULSE (4)
R554 10k
36
R520 15k
C535 100
H_SYNC(2)
R566 2k2
CONTRAST
BRIGHTNESS
INPUT SELECT
Q511
R577 100
C538 N.C
IC502 B 74HC14
R522 470k
T508 BC847
C553 10n
T509 BC857
C552 0u47
R521 560
C551 220n
BCL(3)
USB MODULE
Q506
C506 220u
C507 220u
J501
J502
J503
Q507
Q508
Q509
COM_INTER
SDA(3.5)
SCL(3.5)
Q503
Q502
SDA1(5)
SCL1(5)
SELF TEST
H.SYNC
V.SYNC
SCL(3.5)
SDA(3.5)
G.SYNC
Q501
STBY_5V
190V
80V
12V
CLAMP
7V
G1(2)
-13V
5V
56015
SHEET 5 OF 5
ECN 445U3
ECN 445Q29
ECN 446A31
ECN 445T22

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV


CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE
HAZARD REPLACE FUSE ONLY WITH SAME TYPE AND RATING
T6.3A H 250V
F101
F102
3.15A
HEAT SINK
POWER
SYNC
SMA228D
SMA227D
SMA226D
SMA225D
SMA224D
SMA217D
SMA221D
D3150D SB5169D
MENU
PVM
R
SMZ078D
SMZ070D
SB5173D
KL
JT
PVM
KT
KO
TT
KO
PCB EDGE

SMA D 2

D3150D 05.98 Page 19

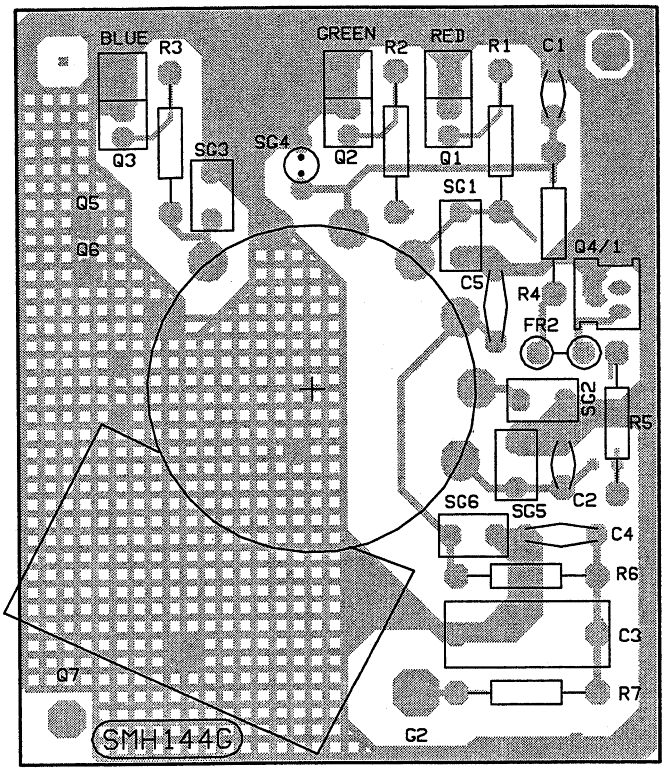

IC503
IC301
IC304
D124
D410

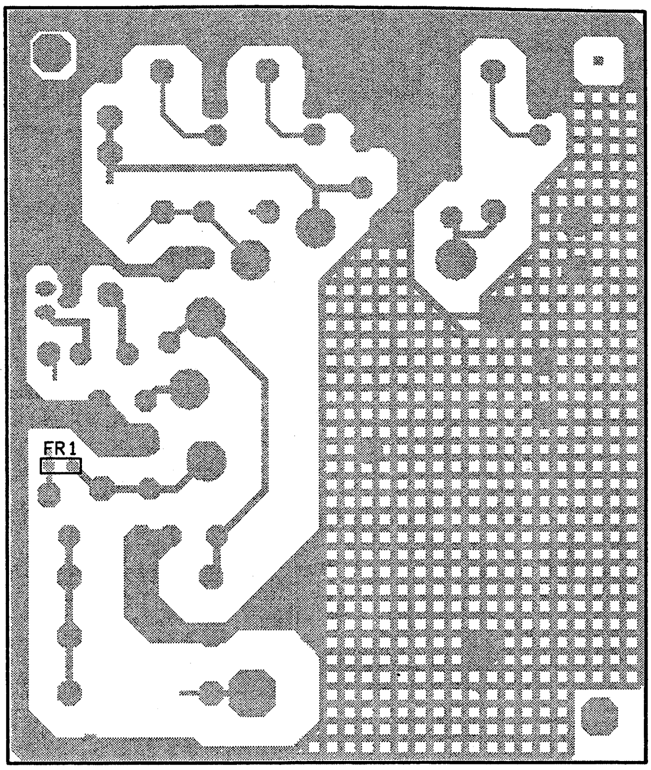
SMA D

2

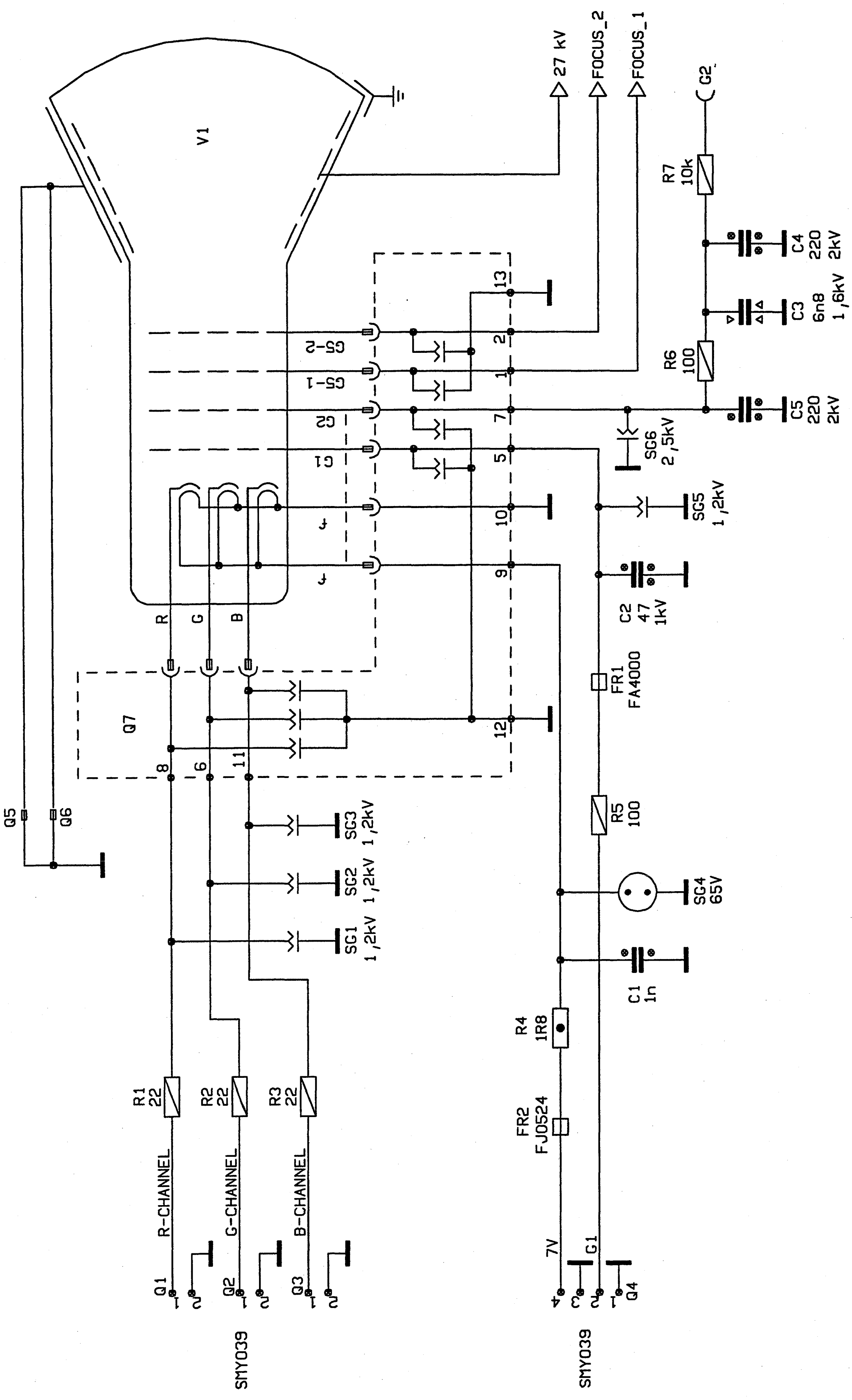
D3150D 05.98 Page 20

445T





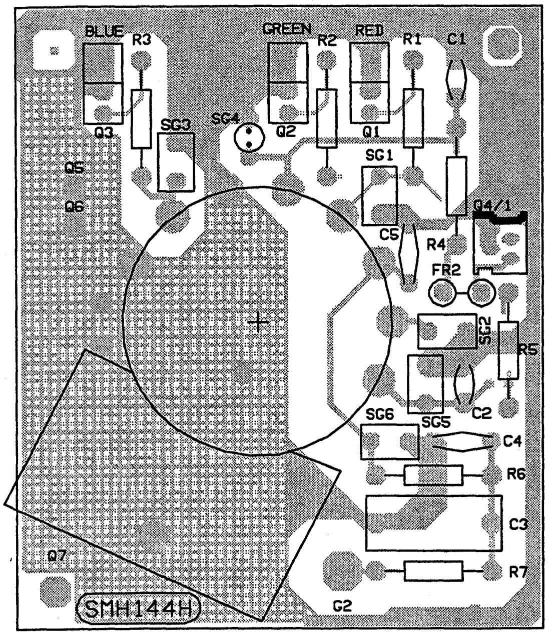
Part Number	Description	PG	Item Number				
AB0130	NF RES 0W5 1R80 J 2.5–7 MF	02	RH	004			
AC4400	CHIPRES 0W1 0R0 5%	01	FRH	001			
AD0333	COMPRES 0W5 22R K 4–11	02	RH	001	002	003	
AD0349	COMPRES 0W5 100R K 4–11	01	RH	005	006		
AD0397	COMPRES 0W5 10K K 4–11	01	RH	007			
CA0306	CERCAP Y5T 220P M 2KV Y7,5 D9	02	CH	004	005		
CB0539	CERCAP SL 47P K 1KV Y5: D6	03	CH	002			
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	01	CH	001			
CE2325	IMPCAP 6N8 J 1K6V Y15 081518	05	CH	003			
FJ0524	FERRITE CHOKE	03	FRH	002			
QK0851	TAP CONN RTM 1,3/5/8.002	01	QH	005	006		
QK1325	COAXIAL JACK FEMALE FOR CABLE	04	QH	001	002	003	
QK1715	BASE PIN COPPER 2.35X0.25X13.2	02	GH2				
QM1022	PICOFLEX ASSY BI–IDC 4–POS 100MM	02	QH	004			
QM0142	CABLE ASSY W/MINI PLUGS 200MM RED	15	QH	001			
QM0143	CABLE ASSY W/MINI PLUGS 200MM BLU	15	QH	003			
QM0144	CABLE ASSY W/MINI PLUGS 200MM GRE	15	QH	002			
QT0002	SPARK GAP 1,2KV +–500V R=5,0MM	03	SGH	001	002	003	005
QT0004	SPARK GAP 2,5KV +–500V R=5,0MM	05	SGH	006			
QT0217	GLIMM LAMP 65V 6*16MM	03	SGH	004			
QK1606	"CRT SOCKET FOR 17"" HITACHI NEAT"	13	QH	007			

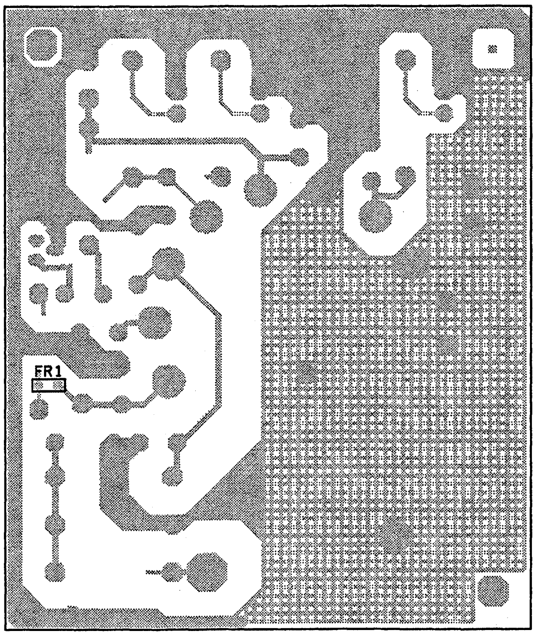

V1
27 kV
FOCUS_2
FOCUS_1
G2
R7
10k
C4
220
2kV
C3
6n8
1,6kV
R6
100
C5
220
2kV
SG6
2,5kV
SG5
1,2kV
C2
47
1kV
FR1
FA4000
R5
100
SG4
65V
C1
1n
R4
1R8
FR2
FJ0524
G5-2
G5-1
G2
G1
f
f
13
2
1
7
5
10
9
12
R
G
B
Q7
8
6
11
Q5
Q6
SG3
1,2kV
SG2
1,2kV
SG1
1,2kV
R1
22
R2
22
R3
22
R-CHANNEL
G-CHANNEL
B-CHANNEL
Q1
Q2
Q3
1
2
SMY039
7V
G1
4
3
2
1
Q4
SMY039

54027G

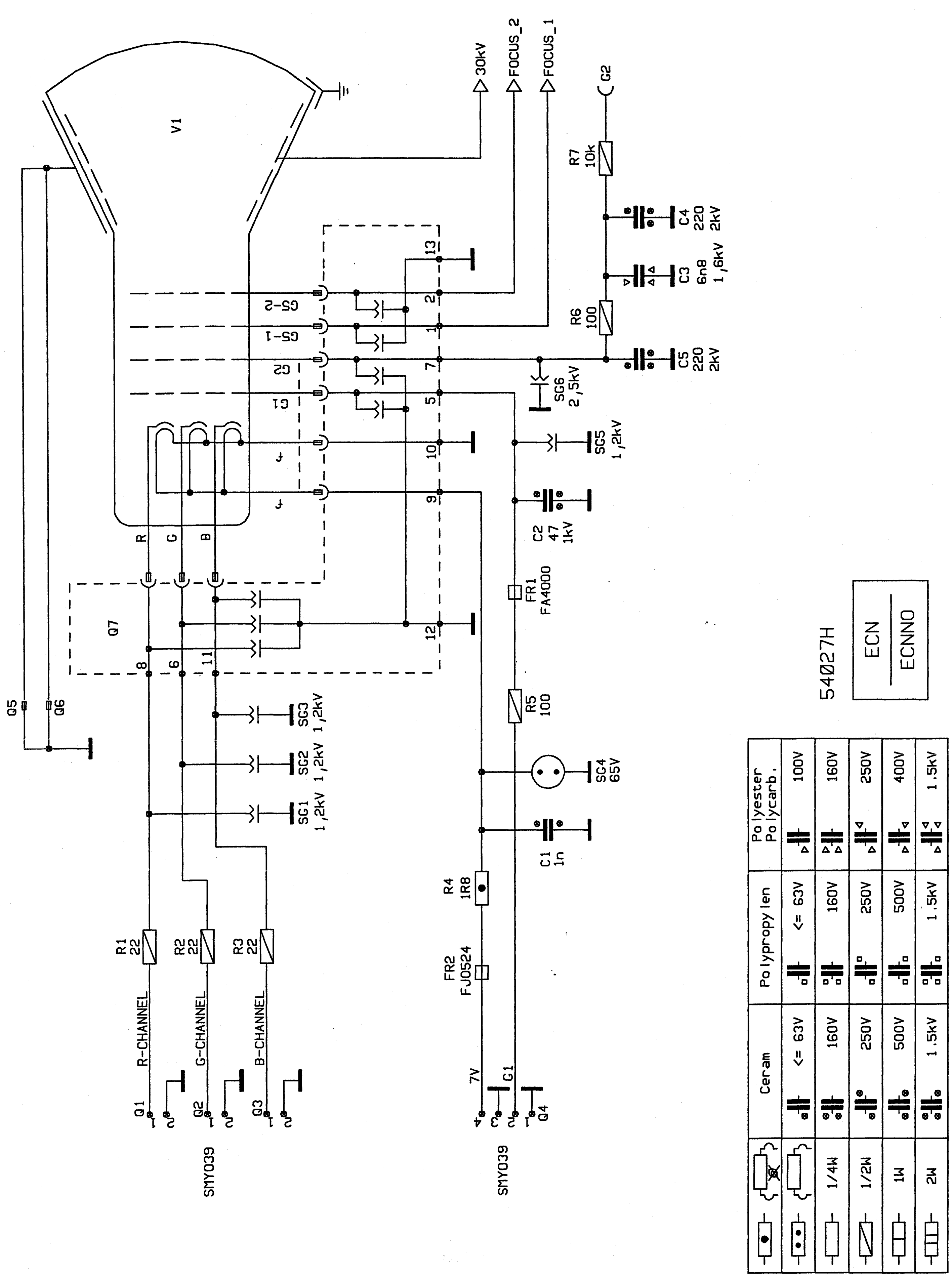
ECN
ECNNO

		Ceram	Polypropylen	Polyester Polycarb.
		<= 63V	<= 63V	100V
	1/4W	160V	160V	160V
	1/2W	250V	250V	250V
	1W	500V	500V	400V
	2W	1.5kV	1.5kV	1.5kV

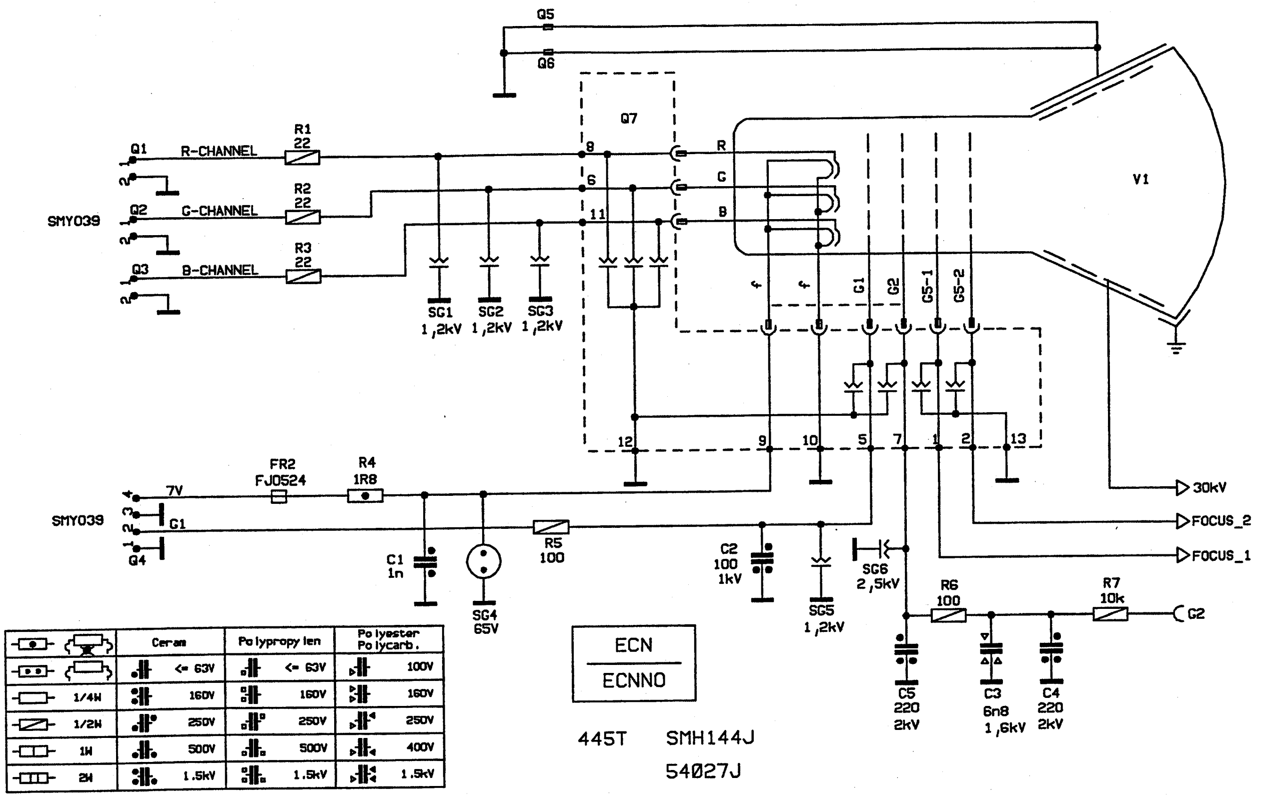




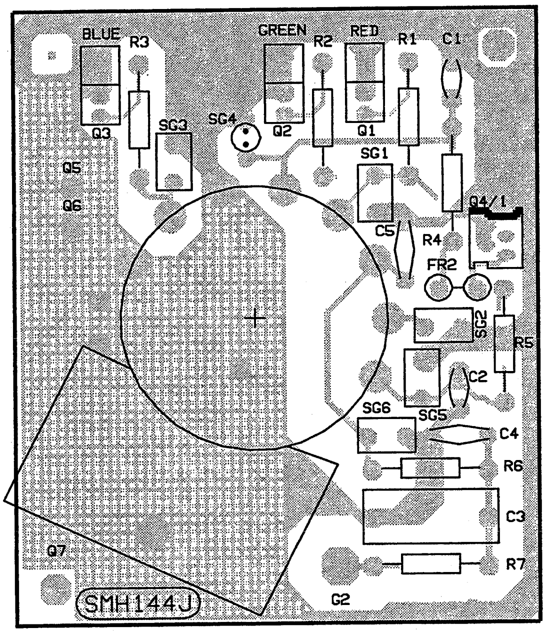
Part Number	Description	PG	Item Number
AD0333	COMPRES 0W5 22R K 4–11	2	RY 136 236 336
AD0333	COMPRES 0W5 22R K 4–11	2	RH 001 002 003
AD0349	COMPRES 0W5 100R K 4–11	1	RH 005 006
AD0397	COMPRES 0W5 10K K 4–11	1	RH 007
CA0306	CERCAP Y5T 220P M 2KV Y7,5 D9	2	CH 004 005
CB0539	CERCAP SL 47P K 1KV Y5: D6	3	CH 002
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	1	CH 001
CE2325	IMPCAP 6N8 J 1K6V Y15 081518	5	CH 003
FJ0524	FERRITE CHOKE	3	FRH 002
QK0851	TAP CONN RTM 1,3/5/8.002	1	QH 005 006
QK1325	COAXIAL JACK FEMALE FOR CABLE	4	QH 001 002 003
QK1715	BASE PIN COPPER 2.35X0.25X13.2	2	GH 002
QM1022	PICOFLEX ASSY BI-IDC 4-POS 100MM	2	QH 004
QM0145	CABLE ASSY W/MINI PLUGS 130MM RED	12	QH 001
QM0146	CABLE ASSY W/MINI PLUGS 130MM BLU	12	QH 003
QM0147	CABLE ASSY W/MINI PLUGS 130MM GRE	12	QH 002
QT0002	SPARK GAP 1,2KV +-500V R=5,0MM	3	SGH 001 002 003 005
QT0004	SPARK GAP 2,5KV +-500V R=5,0MM	5	SGH 006
QT0217	GLIMM LAMP 65V 6*16MM	3	SGH 004
QK1606	"CRT SOCKET FOR 17"" HITACHI NEAT"	13	QH 007
UC6890	SHIELD FOR SOCKET BOARD 445T	6	
UC6891	COOLING PLATE 445T	21	ICY 002



V1
30kV
FOCUS_2
FOCUS_1
G2
R7
10k
C4
220
2kV
C3
6n8
1,6kV
R6
100
C5
220
2kV
13
2
1
7
5
10
9
12
G5-2
G5-1
G2
G1
f
f
SG6
2,5kV
SG5
1,2kV
C2
47
1kV
FR1
FA4000
R
G
B
Q7
8
6
11
Q5
Q6
SG3
1,2kV
SG2
1,2kV
SG1
1,2kV
R5
100
SG4
65V
C1
1n
R4
1R8
FR2
FJ0524
R1
22
R2
22
R3
22
R-CHANNEL
G-CHANNEL
B-CHANNEL
Q1
Q2
Q3
Q4
7V
G1
SMY039
SMY039
54027H
ECN
ECNNO
Ceram
<= 63V
160V
250V
500V
1.5kV
Polypropylen
<= 63V
160V
250V
500V
1.5kV
Polyester
Polycarb.
100V
160V
250V
400V
1.5kV
1/4W
1/2W
1W
2W



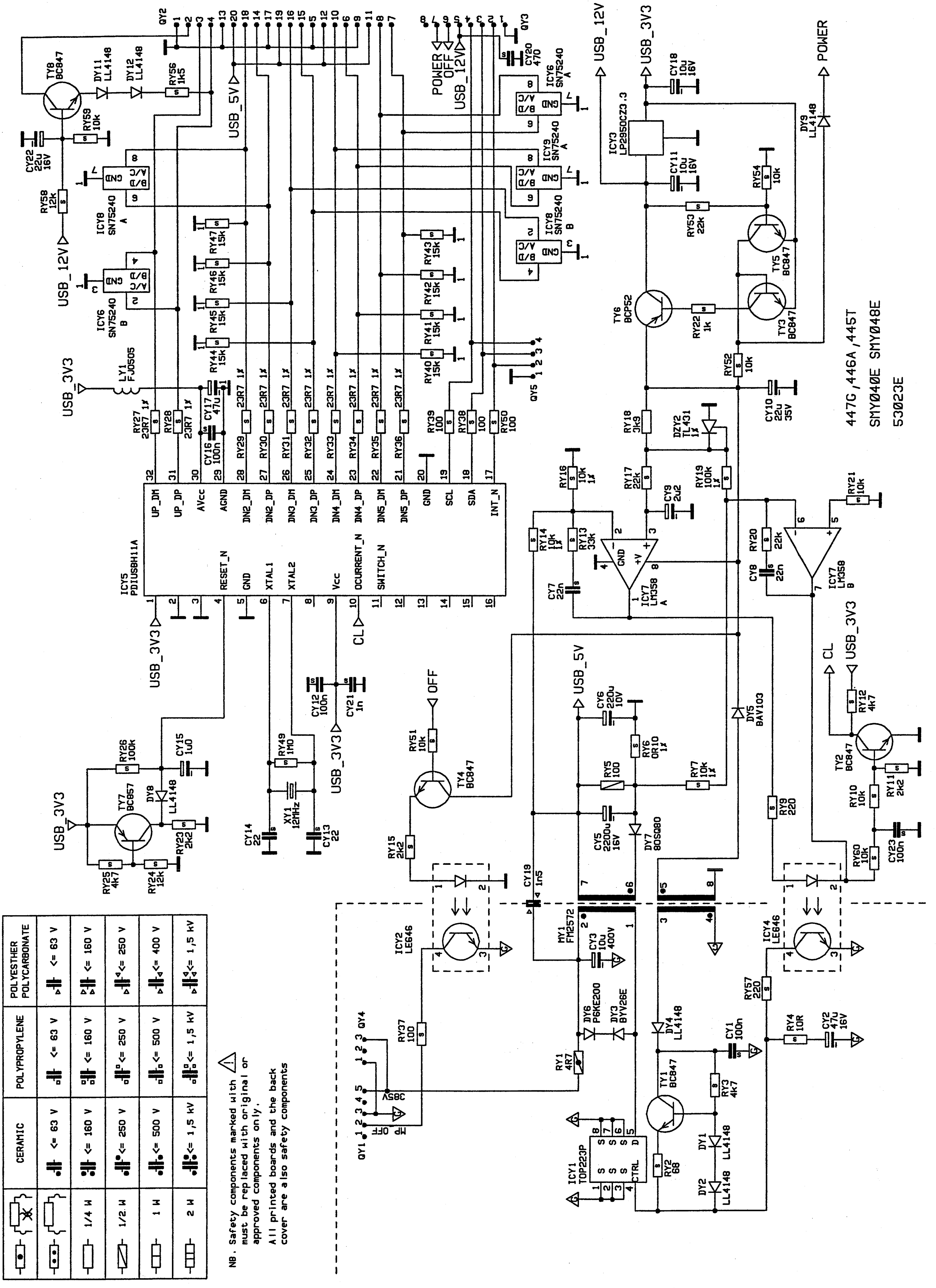
Q5
Q6
Q7
V1
Q1
R-CHANNEL
R1 22
Q2
G-CHANNEL
R2 22
Q3
B-CHANNEL
R3 22
SMY039
R
G
B
8
6
11
f
f
G1
G2
G5-1
G5-2
SG1 1,2kV
SG2 1,2kV
SG3 1,2kV
12
9
10
5
7
1
2
13
FR2 FJ0524
R4 1R8
7V
G1
Q4
SMY039
C1 1n
SG4 65V
R5 100
C2 100 1kV
SG5 1,2kV
SG6 2,5kV
R6 100
R7 10k
G2
C5 220 2kV
C3 6n8 1,6kV
C4 220 2kV
30kV
FOCUS_2
FOCUS_1
Ceram
Polypropylen
Polyester Polycarb.
<= 63V
<= 63V
100V
1/4W
160V
160V
160V
1/2W
250V
250V
250V
1W
500V
500V
400V
2W
1.5kV
1.5kV
1.5kV
ECN
ECNNO
445T SMH144J
54027J



BLUE
R3
GREEN
R2
RED
R1
C1
Q3
SG3
SG4
Q2
Q1
SG1
Q5
Q6
Q4/1
C5
R4
FR2
SG2
R5
C2
SG6
SG5
C4
R6
C3
Q7
R7
SMH144J
G2

Part Number	Description	PG	Item Number
AB0130	NF RES 0W5 1R80 J 2.5-7 MF	2	RH 004
AD0333	COMPRES 0W5 22R K 4-11	2	RY 136 236 336
AD0333	COMPRES 0W5 22R K 4-11	2	RH 001 002 003
AD0349	COMPRES 0W5 100R K 4-11	1	RH 005 006
AD0397	COMPRES 0W5 10K K 4-11	1	RH 007
CA0306	CERCAP Y5T 220P M 2KV Y7,5 D9	2	CH 004 005
CB0539	CERCAP SL 47P K 1KV Y5: D6	3	CH 002
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	1	CH 001
CE2325	IMPCAP 6N8 J 1K6V Y15 081518	5	CH 003
FJ0524	FERRITE CHOKE	3	FRH 002
QK1325	COAXIAL JACK FEMALE FOR CABLE	4	QH 001 002 003
QK1715	BASE PIN COPPER 2.35X0.25X13.2	2	GH 002
QM1022	PICOFLEX ASSY BI-IDC 4-POS 100MM	2	QH 004
QM0145	CABLE ASSY W/MINI PLUGS 130MM RED	12	QH 001
QM0146	CABLE ASSY W/MINI PLUGS 130MM BLU	12	QH 003
QM0147	CABLE ASSY W/MINI PLUGS 130MM GRE	12	QH 002
QT0002	SPARK GAP 1,2KV +-500V R=5,0MM	3	SGH 001 002 003 005
QT0004	SPARK GAP 2,5KV +-500V R=5,0MM	5	SGH 006
QT0217	GLIMM LAMP 65V 6*16MM	3	SGH 004
QK1606	"CRT SOCKET FOR 17"" HITACHI NEAT"	13	QH 007
UC6890	SHIELD FOR SOCKET BOARD 445T	6	

Part Number	Description	PG	Item Number	
AA0687	CF RES 0W25 3K9 J 2,5-7	1	RY	018
AB0817	NF RES 0W5 4R7 J 4-11 CF	1	RY	001
AB0849	NF RES 0W5 100R J 4-11 CF	1	RY	005
AC3136	CHIPRES 23R7 0W1 1% 0805	1	RY	027 028 029 030 031 032 033 034 035 036
AC4425	CHIPRES 0W1 10R 5% 0805 2013	1	RY	004
AC4445	CHIPRES 0W1 68R 5% 0805 2013	1	RY	002
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RY	038 039 050
AC4457	CHIPRES 0W1 220R 5% 0805 2013	1	RY	009 057
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	1	RY	056
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RY	011 023
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RY	025 003 012
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RY	010 060
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RY	007 021 052 054 014 016 059
AC4499	CHIPRES 0W1 12K 5% 0805 2013	1	RY	024 058
AC4501	CHIPRES 0W1 15K 5% 0805 2013	1	RY	040 041 042 043 044 045 046 047
AC4505	CHIPRES 0W1 22K 5% 0805 2013	1	RY	017 020 053
AC4509	CHIPRES 0W1 33K 5% 0805 2013	1	RY	013
AC4521	CHIPRES 0W1 100K 5% 0805 2013	1	RY	026 019
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	1	RY	049
AC7000	CHIPRES 0R10 1W 1% 1218	3	RY	006
AC8673	CHIPRES 0W12 1K0 J 1206 3216	1	RY	022
CB3133	CHIPCERCAP NP0 22P 50V J 0805	1	CY	013 014
CB4167	CHIPCAP NP0 470P J 50V 1206	2	CY	020
CB4175	CHIPCAP NP0 1N0 J 50V 1206	1	CY	021
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY	023
CC4360	CHIPCAP X7R 22N K 50V 1206	1	CY	007 008
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CY	012 016 001
CE0031	Y-CAP 1N5 M 250VAC Y10 040914	6	CY	019
CN0204	ELCAP 2U2 M 50V RM5 : 6*12	1	CY	009
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	2	CY	015
CN2030	ELCAP 10U M 35V RM5: LL 7*12	2	CY	011 018
CN2046	ELCAP 10U M 400V RM5 105' 13X26	4	CY	003
CN2372	"ELCAP 22UF M 35V RM5; 105' 6X12"	3	CY	022
CN2372	"ELCAP 22UF M 35V RM5; 105' 6X12"	3	CY	010
CN2434	ELCAP 47U M 16V RM5: 105' 6X8	3	CY	002 017
CN2576	ELCAP 220U M 16V RM5: 105'11X13	2	CY	006
CN2749	ELCAP 2200U M 16V RM5 105 14X26	4	CY	005
FJ0505	CHOKE 15UH 5% TAPED AXIAL	2	LY	001
FM2572	SMPS TRAFO FOR USB E20/6 N67 USB	20	MY	001
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	4	DY	003
JF0208	SCHOTTKY RECTIFIER 45V 8A 80SQ045	8	DY	007
JF1005	DI P6KE200A TRANSIENT SUPPR	5	DY	006
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DY	005
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DY	001 002 008 011 012 004
JL0069	OPTOCOUPLER VRMS 5KV	4	ICY	004
JM4105	TR BC847B N 45V 0.1A SOT23	4	TY	001 002 003 005 008
JM4114	TR BC857B P 45V 100MA 150M:	2	TY	007
JM4118	TR BCP52 P 60V 1A 50MHZ SOT223	4	TY	006
LM0663	IC TL431 VOLTAGE REFERENCE TO-92	6	DZY	002
LM0964	IC PDIUSBH11A USB HUB	21	ICY	005
LM0972	IC TOP223P PWM SWITCH 15W DIP-8	13	ICY	001
LM0973	IC LP2950CZ 3.3V TO92	10	ICY	003
LM0977	IC SN75240 USB PORT SUPPR. DIP8	7	ICY	006 008 009
LM4428	IC LM358D DUAL OP AMP SO-8	5	ICY	007
QA0099	CRYSTAL 12.0 MHZ HC-49/U	10	XY	001
QK1103	IDC WIRE CONN 1X03 2,5 POL. PINS	3		002
QK1701	PICOFLEX HEADER 1X04 1,27MM	3	QY	005
QK1709	PICOFLEX HEADER 1X20 1,27MM	5	QY	002
QK1717	SOLDER SUPPORT FOR CABLE 3-POS	5	QY	004
SE2763	POWER CABLE FOR USB 445T	4	QY	004
XS0474	BAND CABLE STRAN 3-POLE R=2,50	4		001

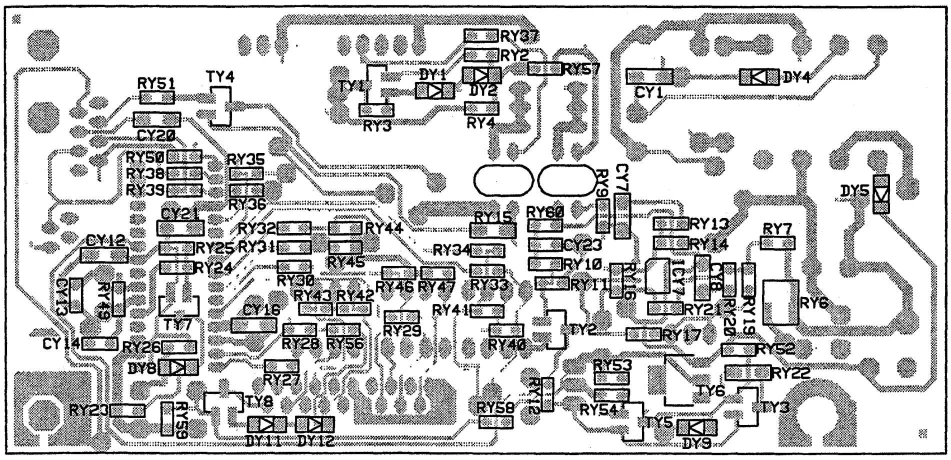

447G,446A,445T
SMY040E SMY048E
53023E
ICY5 PDIUSBH11A
ICY1 TOP223P
MY1 FM2572
ICY3 LP2950CZ3.3
ICY7 LM358
ICY6 SN75240
ICY8 SN75240
ICY9 SN75240
ICY2 LE646
ICY4 LE646
USB_12V
USB_3V3
USB_5V
POWER
OFF
CL
385V
XY1 12MHz
QY1
QY2
QY3
QY4
QY5

		CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
		<= 63 V	<= 63 V	<= 63 V
	1/4 W	<= 160 V	<= 160 V	<= 160 V
	1/2 W	<= 250 V	<= 250 V	<= 250 V
	1 W	<= 500 V	<= 500 V	<= 400 V
	2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

NB. Safety components marked with ⚠ must be replaced with original or approved components only.
All printed boards and the back cover are also safety components

SMY040E 3

D3125E 12.98 Page 3


RY37
RY2
RY57
CY1
DY4
RY51
TY4
TY1
DY1
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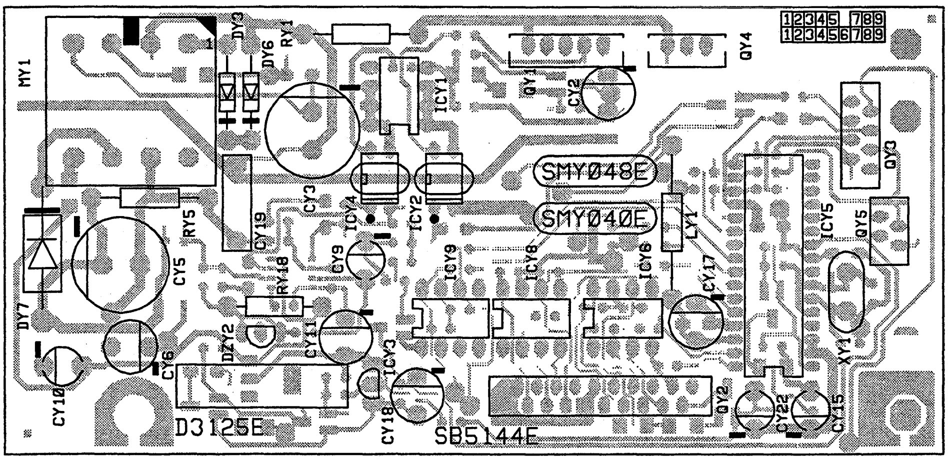
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Part Number	Description	PG	Item Number
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AA0673	CF RES 0W25 1K0 J 2,5–7	01	RY 126 226 326
AA0709	CF RES 0W25 33K J 2,5–7	01	RY 041 043 045
AA0719	CF RES 0W25 82K J 2,5–7	01	RY 096
AA0729	CF RES 0W25 220K J 2,5–7	01	RY 097
AA0737	CF RES 0W25 470K J 2,5–7	01	RY 125 225 325
AC3584	CHIPRES 0W1 75R 1% 0805 2013	01	RY 101 201 301 102 202 302
AC4419	CHIPRES 0W1 5R6 5% 0805 2013	01	RY 104 204 304
AC4425	CHIPRES 0W1 10R 5% 0805 2013	01	RY 107 108 152 153 155 157 205 206 252 253
AC4425	CHIPRES 0W1 10R 5% 0805 2013	01	RY 255 257 305 306 352 353 355 357
AC4433	CHIPRES 0W1 22R 5% 0805 2013	01	RY 069
AC4441	CHIPRES 0W1 47R 5% 0805 2013	01	RY 057 058 103 203 303
AC4443	CHIPRES 0W1 56R 5% 0805 2013	01	RY 118
AC4445	CHIPRES 0W1 68R 5% 0805 2013	01	RY 218
AC4447	CHIPRES 0W1 82R 5% 0805 2013	01	RY 318
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RY 004 005 006 017 018 019 020 031 032
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RY 063 068 021 094 112
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RY 212 312 008
AC4453	CHIPRES 0W1 150R 5% 0805 2013	01	RY 110 115 151 322 210 215 315 251 310 351
AC4457	CHIPRES 0W1 220R 5% 0805 2013	01	RY 150 250 350
AC4459	CHIPRES 0W1 270R 5% 0805 2013	01	RY 143 243 343 122
AC4461	CHIPRES 0W1 330R 5% 0805 2013	01	RY 222 120 220 320
AC4465	CHIPRES 0W1 470R 5% 0805 2013	01	RY 109 111 209 211 309 311
AC4469	CHIPRES 0W1 680R 5% 0805 2013	01	RY 141 241 341
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	RY 070 090 129 229 329 235 335 135 012
AC4475	CHIPRES 0W1 1K2 5% 0805 2013	01	RY 106
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	01	RY 065
AC4479	CHIPRES 0W1 1K8 5% 0805 2013	01	RY 066 142 242 342
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RY 088 091 132 232 332
AC4483	CHIPRES 0W1 2K7 5% 0805 2013	01	RY 087
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RY 052
AC4491	CHIPRES 0W1 5K6 5% 0805 2013	01	RY 064
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RY 033 034 035 054 134 234 334 061 062
AC4499	CHIPRES 0W1 12K 5% 0805 2013	01	RY 105
AC4501	CHIPRES 0W1 15K 5% 0805 2013	01	RY 042 044 046
AC4505	CHIPRES 0W1 22K 5% 0805 2013	01	RY 036 037 038
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	RY 055 113 213 313
AC4517	CHIPRES 0W1 68K 5% 0805 2013	01	RY 013
AC4521	CHIPRES 0W1 100K 5% 0805 2013	01	RY 133 093 116 144 216 244 316 344
AC4525	CHIPRES 0W1 150K 5% 0805 2013	01	RY 219
AC4529	CHIPRES 0W1 220K 5% 0805 2013	01	RY 081 082 319
AC4531	CHIPRES 0W1 270K 5% 0805 2013	01	RY 119
AC4537	CHIPRES 0W1 470K 5% 0805 2013	01	RY 011
AC4539	CHIPRES 0W1 560K 5% 0805 2013	01	RY 121
AC4543	CHIPRES 0W1 820K 5% 0805 2013	01	RY 321
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	01	RY 128 228 328 067
AC4551	CHIPRES 0W1 1M8 5% 0805 2013	01	RY 221
AC6042	CHIPRES 1W 560R 5% 2512 6332	01	RY 154 254 354 156 256 356
AD0333	COMPRES 0W5 22R K 4–11	02	RY 136 236 336
AG3351	MF RES 0W5 332R F TC50 2,5–7	01	RY 085 086
AG3381	MF RES 0W5 681R F TC50 2,5–7	01	RY 092
AG3401	MF RES 0W5 1K00 F TC50 2,5–7	01	RY 158 159 258 259 358 359
AG3457	MF RES 0W5 3K83 F TC50 2,5–7	01	RY 127 227 327
AG3465	MF RES 0W5 4K64 F TC50 2,5–7	01	RY 130 230 330
AG3565	MF RES 0W5 46K4 F TC50 2,5–7	01	RY 131 231 331
CB0418	CERCAP N150 22P J 500V Y5: D8	01	CY 122 222 322
CB3105	CHIPCERCAP NP0 1P5 50V C 0805	01	CY 141 241 341 110 210 310
CB3121	CHIPCERCAP NP0 6P8 50V D 0805	01	CY 120
CB3125	CHIPCERCAP NP0 10P 50V J 0805	03	CY 320
CB3127	CHIPCERCAP NP0 12P 50V J 0805	01	CY 220
CB3137	CHIPCERCAP NP0 33P 50V J 0805	01	CY 060 064 066 069 070 118 218 318
CB3141	CHIPCERCAP NP0 47P 50V J 0805	01	CY 056
CB3167	CHIPCERCAP NP0 470P 50V J 0805	02	CY 011
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	03	CY 087 152 153 154 155 156 252 253
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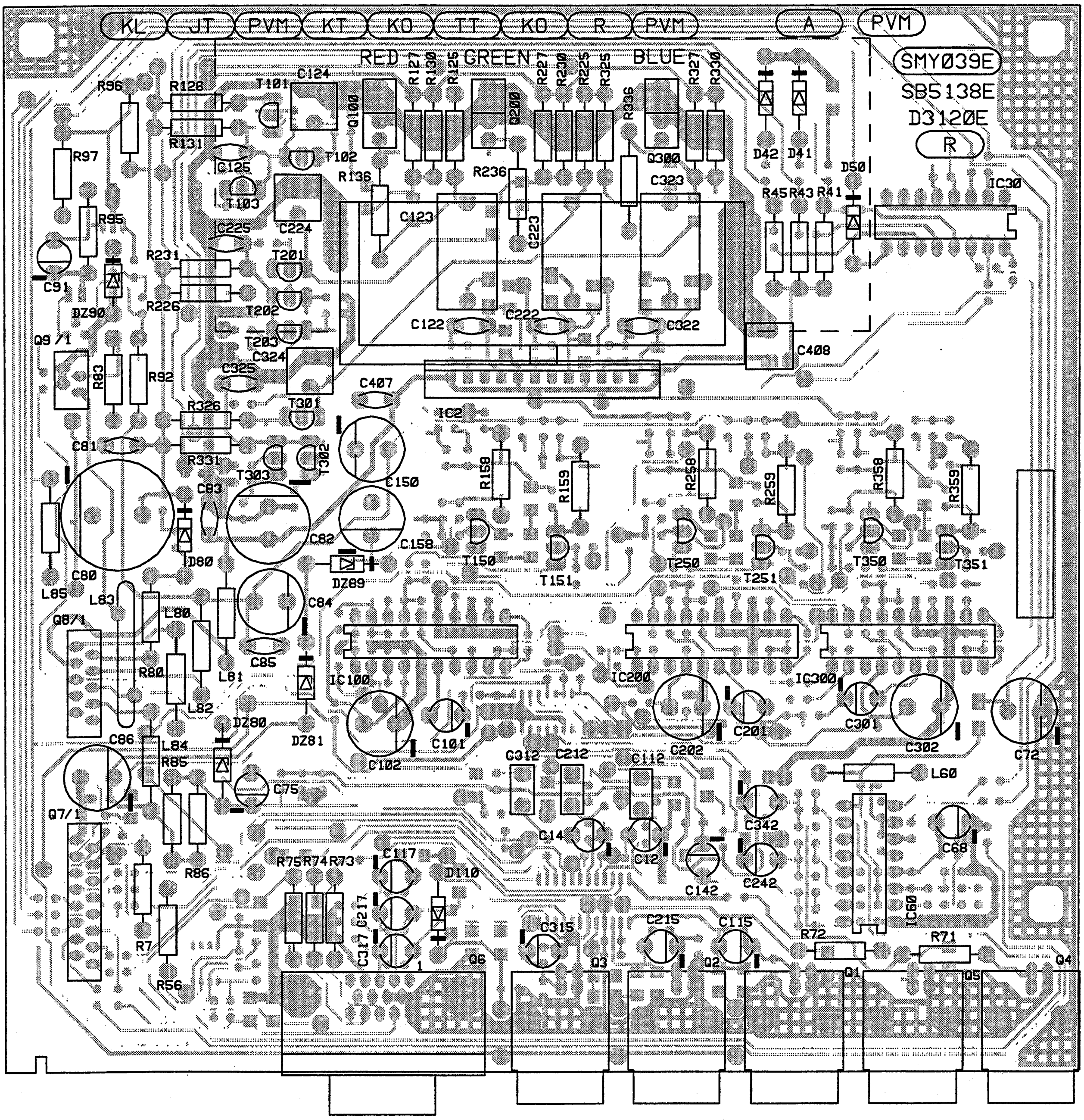
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CY 105 111 116 119 205 211 216 219 305 311
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CY 316 319
CC3360	CHIPCERCAP X7R 22N 10% 50V 0805	01	CY 061
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	02	CY 001 013 030 050 055 062 067 071 076
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	02	CY 077 078 090 103 106 107 108 109 113
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	02	CY 114 151 157 203 206 208 209 213 214 251
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	02	CY 257 303 306 308 309 313 314 351 357
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	02	CY 015 016
CK0283	PESCAP MKT 100N K 250V Y5 070812	02	CY 124 224 324 408
CK0465	PESCAP MKT 1U0 K 250V Y15 091818	04	CY 123 223 323
CK2864	PESCAP MKT 1U0 K 50V Y5:061108!	05	CY 112 212 312
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	01	CY 081 083 085 125 225 325 407
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	02	CY 014
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	01	CY 012 068 075 091 101 115 117 142
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	01	CY 201 215 217 242 301 315 317 342
CN2576	ELCAP 220U M 16V RM5: 105'11X13	02	CY 102 150 202 302 072 084
CN2712	ELCAP 1000U M 16V RM5: 105'11X21	05	CY 086 158
CN3249	ELCAP, 47U M 200V RM5 105' 13X26	04	CY 082
CN3250	ELCAP, 47U M 250V RM7,5 105'16X25	05	CY 080
FA0010	CHIP COIL 100NH 10% SIZE 1210	03	LY 101 201 301
FA0035	CHIP COIL 15UH SIZE 1210	04	LY 061

Part Number	Description	PG	Item Number
FJ0448	CHOKE 13UH FERRITE 2X15	02	LY 083
FJ0505	CHOKE 15UH 5% TAPED AXIAL	02	LY 080 081 082 084 085
FJ0705	CHOKE 330UH TAPED AXIAL	02	LY 060
JF0025	DI 1N4148 75V 200MA 4N	01	DY 041 042 050 110
JF0067	DI 1N4007 1000V 1A	01	DY 080
JF4003	DI BAV103 200V 250MA 50NS SOD-80	07	DY 103 104 105 106 203 204 205 206 303 304
JF4003	DI BAV103 200V 250MA 50NS SOD-80	07	DY 305 306
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DY 060 061 040 101 102 108 109 111 150
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DY 151 152 201 202 208 209 210 211 250 251
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DY 252 301 302 308 309 310 311 350 351 352
JH0054	ZDI BZX83C12 12V 0.5W 5%	01	DZY 090
JH0081	ZDI ZPY 3.9 3.9V 1.3W 5%	01	DZY 081 089
JH0089	ZDI BZX79B5V1 5.1V 0.5W 2%	02	DZY 080
JH4218	ZDI BZV55C5V6 5V6 5% 500MW SOD80	02	DZY 082 083 084 085 088
JM0273	TR 2N5551 NPN 160V 0,6A	02	TY 101 102 103 201 202 203 301 302 303
JM0354	TR BFQ131 N 18V 150MA 4GHZ SOT54	04	TY 150 250 350
JM0355	TR BFQ151 P 15V 100MA 3.5G SOT54	05	TY 151 251 351
JM4116	TR PMBT2369 N 15V 200MA SOT-23	03	TY 090
JM4305	TR BST84 N 200V 250MA 250MS SOT89	12	TFY 090
LM0958	IC LM2202N VIDEO AMP. 1-CH 230MHZ	15	ICY 100 200 300
LM0961	IC LSC4386P2 OSD WITH OWN CHAR.	21	ICY 060
LM0963	IC CR6927A 150MHZ 3-CH CRT DRIVER	29	ICY 002
LM0968	IC TDA8447 12C BUS 8BIT DAC DIL16	12	ICY 030
LM4420	IC DUAL MODE EEPROM FOR DDC 2.0	12	ICY 050
LM4421	IC BA7657F INPUT SIGNAL SELECTOR	13	ICY 010
LM4422	IC EL4331C MUX-AMP AV=1 SO16	22	ICY 070
QK1325	COAXIAL JACK FEMALE FOR CABLE	04	QY 100 200 300
QK1502	HIGH DENSITY D-15 CONN., FEMALE	14	QY 006
QK1563	BNC-CONN FEMALE 90-DEG 75OHM PCB	14	QY 001 002 003 004 005
QK1701	PICOFLEX HEADER 1X04 1,27MM	03	QY 009
QK1704	PICOFLEX HEADER 1X10 1,27MM	04	QY 008
QK1707	PICOFLEX HEADER 1X16 1,27MM	04	QY 007
UC6891	VIDEO COOLING PLATE 445T	21	ICY 002
WN0168	RIWSCREW 1712-3510	03	ICY 002
XW0032	DOW CORNING	32	ICY 002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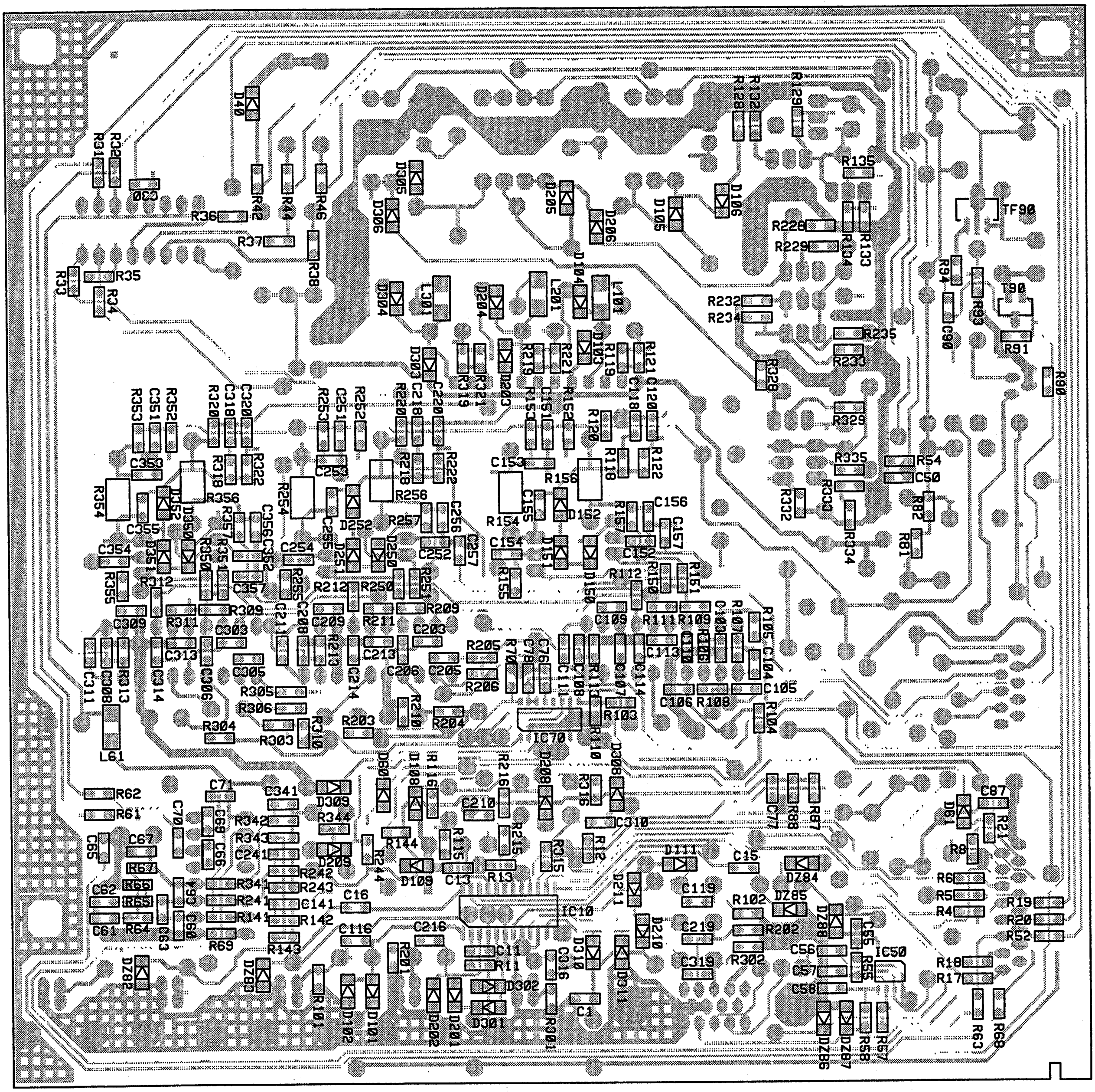

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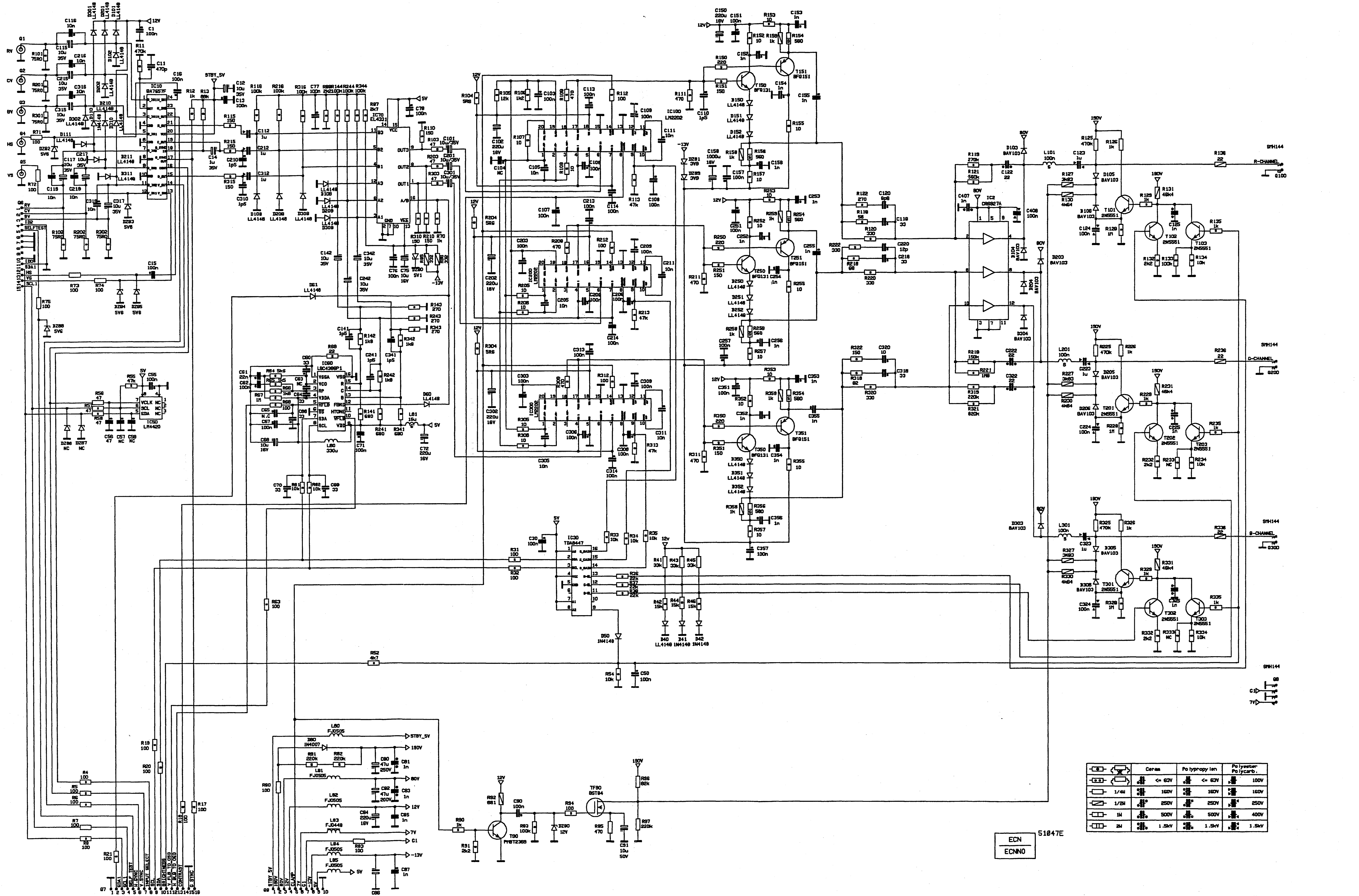
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R-CHANNEL
G-CHANNEL
B-CHANNEL
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190V
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7V
C1
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5V
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CV
BV
HS
VS
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ECN
ECNNO
51047E
Ceram
Polypropylen
Polyester Polycarb.
1/4W
1/2W
1W
2W
<= 63V
160V
250V
500V
1.5kV
100V
400V

SMY039E

D3120E 06.97 Page 5

445T

Part Number	Description	PG	Item Number
AA0641	CF RES 0W25 47R J 2,5–7	1	RY 056
AA0649	CF RES 0W25 100R J 2,5–7	1	RY 007 071 072 073 080 083 074 075
AA0665	CF RES 0W25 470R J 2,5–7	1	RY 095
AA0673	CF RES 0W25 1K0 J 2,5–7	1	RY 126 226 326
AA0709	CF RES 0W25 33K J 2,5–7	1	RY 041 043 045
AA0719	CF RES 0W25 82K J 2,5–7	1	RY 096
AA0731	CF RES 0W25 270K J 2,5–7	1	RY 097
AA0737	CF RES 0W25 470K J 2,5–7	1	RY 125 225 325
AC3584	CHIPRES 0W1 75R 1% 0805 2013	1	RY 101 201 301 102 202 302
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	FRH 001
AC4419	CHIPRES 0W1 5R6 5% 0805 2013	1	RY 104 204 304
AC4425	CHIPRES 0W1 10R 5% 0805 2013	1	RY 107 108 152 153 155 157 205 206 252 253
AC4425	CHIPRES 0W1 10R 5% 0805 2013	1	RY 255 257 305 306 352 353 355 357
AC4433	CHIPRES 0W1 22R 5% 0805 2013	1	RY 069
AC4441	CHIPRES 0W1 47R 5% 0805 2013	1	RY 057 058 103 203 303
AC4443	CHIPRES 0W1 56R 5% 0805 2013	1	RY 118
AC4445	CHIPRES 0W1 68R 5% 0805 2013	1	RY 218
AC4447	CHIPRES 0W1 82R 5% 0805 2013	1	RY 318
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RY 004 005 006 017 018 019 020 031 032
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RY 063 068 021 094 112
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RY 212 312 008
AC4453	CHIPRES 0W1 150R 5% 0805 2013	1	RY 110 115 151 322 210 215 315 251 310 351
AC4457	CHIPRES 0W1 220R 5% 0805 2013	1	RY 150 250 350
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AC4465	CHIPRES 0W1 470R 5% 0805 2013	1	RY 109 111 209 211 309 311
AC4469	CHIPRES 0W1 680R 5% 0805 2013	1	RY 141 241 341
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RY 070 090 129 229 329 235 335 135 012
AC4475	CHIPRES 0W1 1K2 5% 0805 2013	1	RY 106
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	1	RY 065
AC4479	CHIPRES 0W1 1K8 5% 0805 2013	1	RY 066 142 242 342
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RY 088 091 132 232 332
AC4483	CHIPRES 0W1 2K7 5% 0805 2013	1	RY 087
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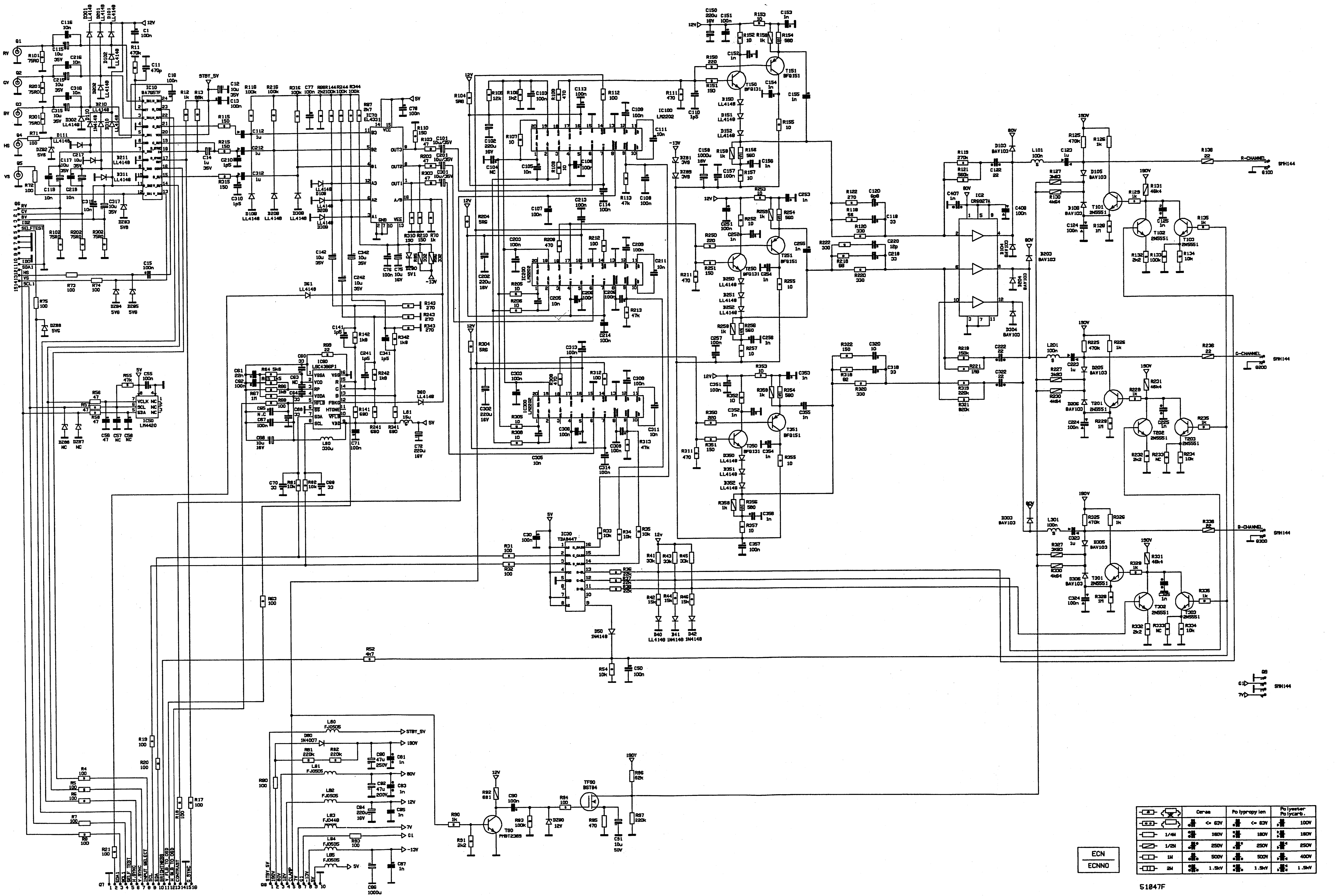
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	1	RY 128 228 328 067
AC4551	CHIPRES 0W1 1M8 5% 0805 2013	1	RY 221
AC6042	CHIPRES 1W 560R 5% 2512 6332	1	RY 154 254 354 156 256 356
AG3351	MF RES 0W5 332R F TC50 2,5–7	1	RY 085 086
AG3381	MF RES 0W5 681R F TC50 2,5–7	1	RY 092
AG3401	MF RES 0W5 1K00 F TC50 2,5–7	1	RY 158 159 258 259 358 359
AG3457	MF RES 0W5 3K83 F TC50 2,5–7	1	RY 127 227 327
AG3465	MF RES 0W5 4K64 F TC50 2,5–7	1	RY 130 230 330
AG3565	MF RES 0W5 46K4 F TC50 2,5–7	1	RY 131 231 331
CB0418	CERCAP N150 22P J 500V Y5: D8	1	CY 122 222 322
CB3105	CHIPCERCAP NP0 1P5 50V C 0805	1	CY 141 241 341 110 210 310
CB3125	CHIPCERCAP NP0 10P 50V J 0805	1	CY 120 320
CB3127	CHIPCERCAP NP0 12P 50V J 0805	1	CY 220
CB3137	CHIPCERCAP NP0 33P 50V J 0805	1	CY 060 064 066 069 070 118 218 318
CB3141	CHIPCERCAP NP0 47P 50V J 0805	1	CY 056

Part Number	Description	PG	Item Number
CB3167	CHIPCERCAP NP0 470P 50V J 0805	2	CY 011
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	3	CY 087 152 153 154 155 156 252 253
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	3	CY 254 255 256 352 353 354 355 356
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CY 105 111 116 119 205 211 216 219 305 311
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CY 316 319
CC3360	CHIPCERCAP X7R 22N 10% 50V 0805	1	CY 061
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 001 013 030 050 055 062 067 071 076
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 077 078 090 103 106 107 108 109 113
C3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 114 151 157 203 206 208 209 213 214 251
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 257 303 306 308 309 313 314 351 357
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 015 016
CK0283	PESCAP MKT 100N K 250V Y5 070812	2	CY 124 408
CK0283	PESCAP MKT 100N K 250V Y5 070812	2	CY 224 324
CK0465	PESCAP MKT 1U0 K 250V Y15 091818	4	CY 123 223 323
CK2864	PESCAP MKT 1U0 K 50V Y5:061108!	5	CY 212 312
CK2864	PESCAP MKT 1U0 K 50V Y5:061108!	5	CY 112
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	1	CY 081 083 085 125 225 325 407
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	2	CY 014
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	1	CY 012 068 075 091 101 115 117 142
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	1	CY 201 215 217 242 301 315 317 342
CN2576	ELCAP 220U M 16V RM5: 105'11X13	2	CY 102 150 202 302 072 084
CN2712	ELCAP 1000U M 16V RM5: 105'11X21	5	CY 086 158
CN3249	ELCAP, 47U M 200V RM5 105' 13X26	9	CY 082
CN3250	ELCAP, 47U M 250V RM7,5 105'16X25	5	CY 080
FA0010	CHIP COIL 100NH 10% SIZE 1210	3	LY 101 201 301
FA0035	CHIP COIL 15UH SIZE 1210	4	LY 061
FJ0448	CHOKE 13UH FERRITE 2X15	2	LY 083
FJ0505	CHOKE 15UH 5% TAPED AXIAL	2	LY 080 081 082 084 085
FJ0705	CHOKE 330UH TAPED AXIAL	2	LY 060
JF0025	DI 1N4148 75V 200MA 4N	1	DY 041 042 050 110
JF0067	DI 1N4007 1000V 1A	1	DY 080
JF4003	DI BAV103 200V 250MA 50NS SOD–80	7	DY 103 104 105 106 203 204 205 206 303 304
JF4003	DI BAV103 200V 250MA 50NS SOD–80	7	DY 305 306
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DY 060 061 040 101 102 108 109 111 150
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DY 151 152 201 202 208 209 210 211 250 251
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DY 252 301 302 308 309 310 311 350 351 352
JH0054	ZDI BZX83C12 12V 0.5W 5%	1	DZY 090
JH0081	ZDI ZPY 3.9 3.9V 1.3W 5%	1	DZY 081 089
JH0089	ZDI BZX79B5V1 5.1V 0.5W 2%	2	DZY 080
JH4218	ZDI BZV55C5V6 5V6 5% 500MW SOD80	2	DZY 082 083 084 085 088
JM0273	TR 2N5551 NPN 160V 0,6A	2	TY 101 102 103 201 202 203 301 302 303
JM0354	TR BFQ131 N 18V 150MA 4GHZ SOT54	4	TY 150 250 350
JM0355	TR BFQ151 P 15V 100MA 3.5G SOT54	5	TY 151 251 351
JM4116	TR PMBT2369 N 15V 200MA SOT–23	3	TY 090
JM4305	TR BST84 N 200V 250MA 250MS SOT89	12	TFY 090
LM0958	IC LM2202N VIDEO AMP. 1–CH 230MHZ	15	ICY 100 200 300
LM0961	IC LSC4386P2 OSD WITH OWN CHAR.	21	ICY 060
LM0963	IC CR6927A 150MHZ 3–CH CRT DRIVER	29	ICY 002
LM0968	IC TDA8447 12C BUS 8BIT DAC DIL16	12	ICY 030
LM4420	IC DUAL MODE EEPROM FOR DDC 2.0	2	ICY 050
LM4421	IC BA7657F INPUT SIGNAL SELECTOR	13	ICY 010
LM4422	IC EL4331C MUX–AMP AV=1 SO16	22	ICY 070
QK1325	COAXIAL JACK FEMALE FOR CABLE	4	QY 100 200 300
QK1502	HIGH DENSITY D–15 CONN., FEMALE	14	QY 006
QK1563	BNC–CONN FEMALE 90–DEG 75OHM PCB	14	QY 001 002 003 004 005
QK1701	PICOFLEX HEADER 1X04 1,27MM	3	QY 009
QK1704	PICOFLEX HEADER 1X10 1,27MM	4	QY 008
QK1707	PICOFLEX HEADER 1X16 1,27MM	4	QY 007
AB0130	NF RES 0W5 1R80 J 2.5–7 MF	2	RH 004
WC0036	UNI6950 SCREW	1	
WN0168	RIWSCREW 1712–3510	3	ICY 002
XW0032	DOW CORNING	9	ICY 002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IC70 EL4331
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IC50 LM4420
IC100 LM2202
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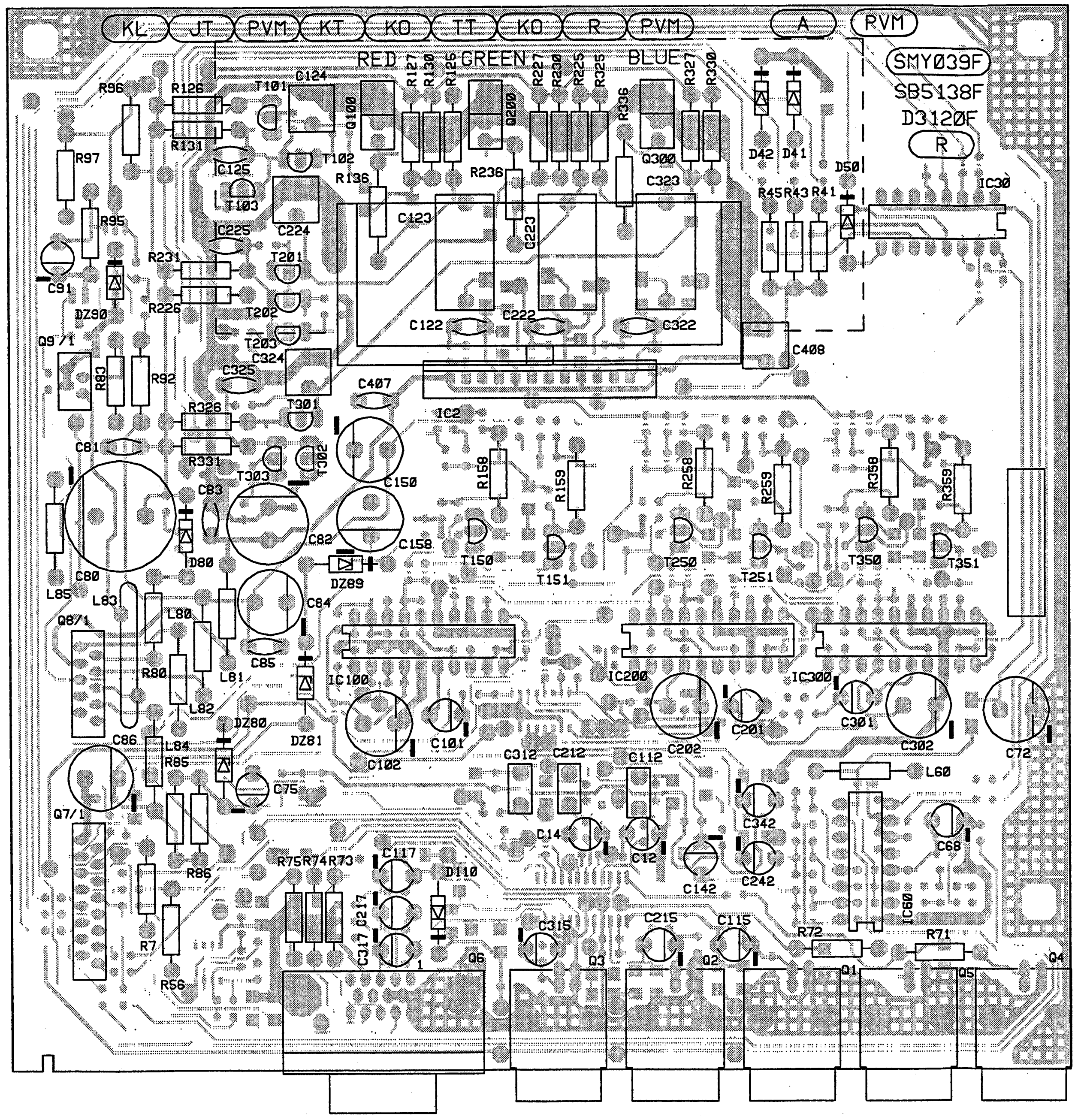
IC300 LM2202
IC2 CR6927A
IC30 TDA8447
T150 BF0131
T151 BF0151
T250 BF0131
T251 BF0151
T350 BF0131
T351 BF0151
T101 2N5551
T102 2N5551
T103 2N5551
T201 2N5551
T202 2N5551
T203 2N5551
T301 2N5551
T302 2N5551
T303 2N5551
T80 PMBT2369
TF80 BST84
R-CHANNEL
G-CHANNEL
B-CHANNEL
SMH144
RV
GV
BV
HS
VS
SELFTEST
SDA1
SCL1
STBY_5V
12V
5V
180V
80V
7V
C1
-13V
SDA
SCL
H_SYNC
V_SYNC
INPUT_SELECT
BRIGHTNESS
H_BLK_TO_OSD
CONTRAST
G_SYNC
Ceram
Polypropylen
Polyester Polycarb.
<= 63V
<= 63V
100V
1/4W
160V
160V
160V
1/2W
250V
250V
250V
1W
500V
500V
400V
2W
1.5kV
1.5kV
1.5kV
ECN
ECNNO

51047F

SMY039F 2

D3120F 05.98 Page 9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JT
PVM
KT
KO
TT
KO
R
PVM
A
RVM
SMY039F
SB5138F
D3120F
R
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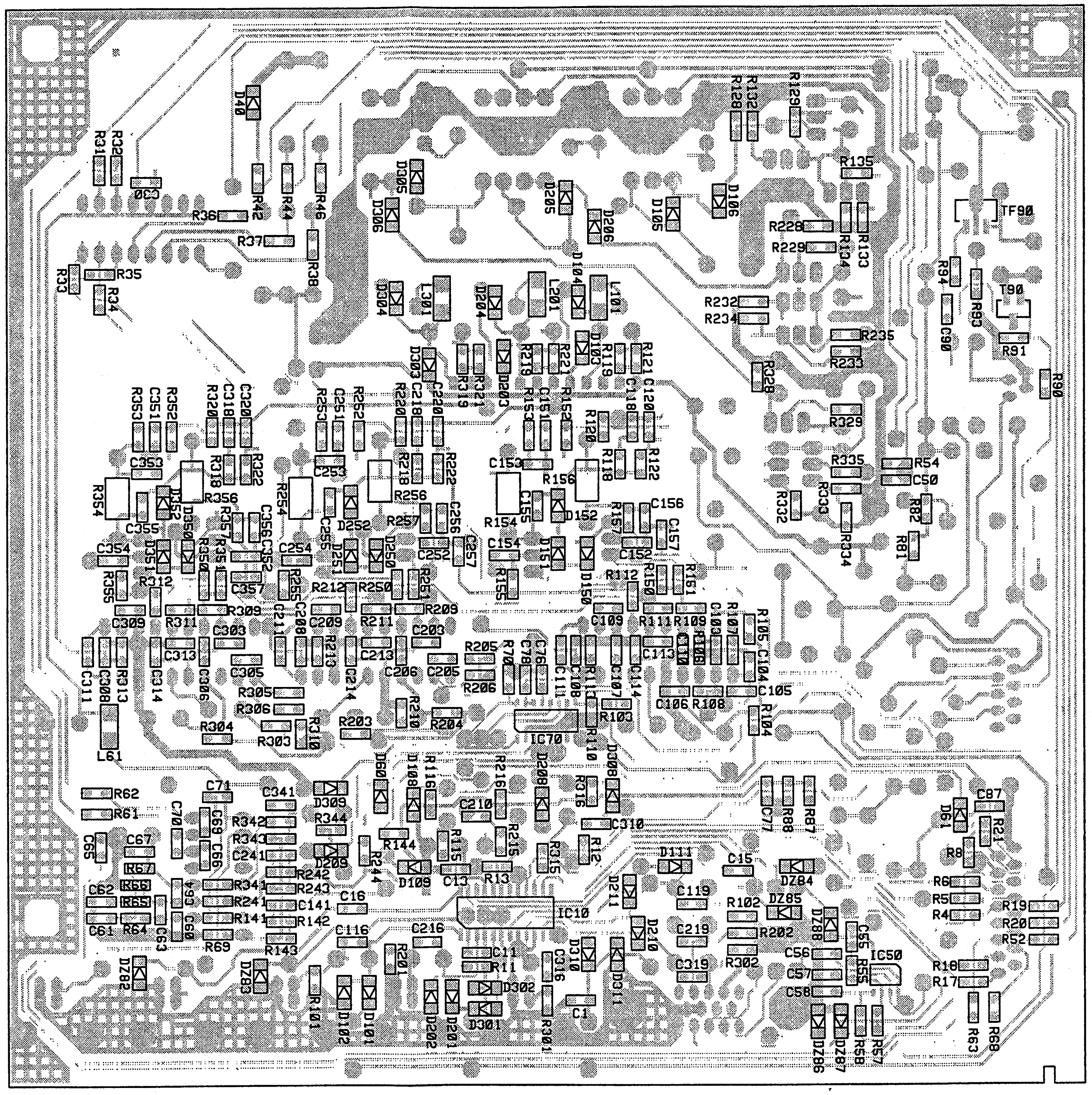
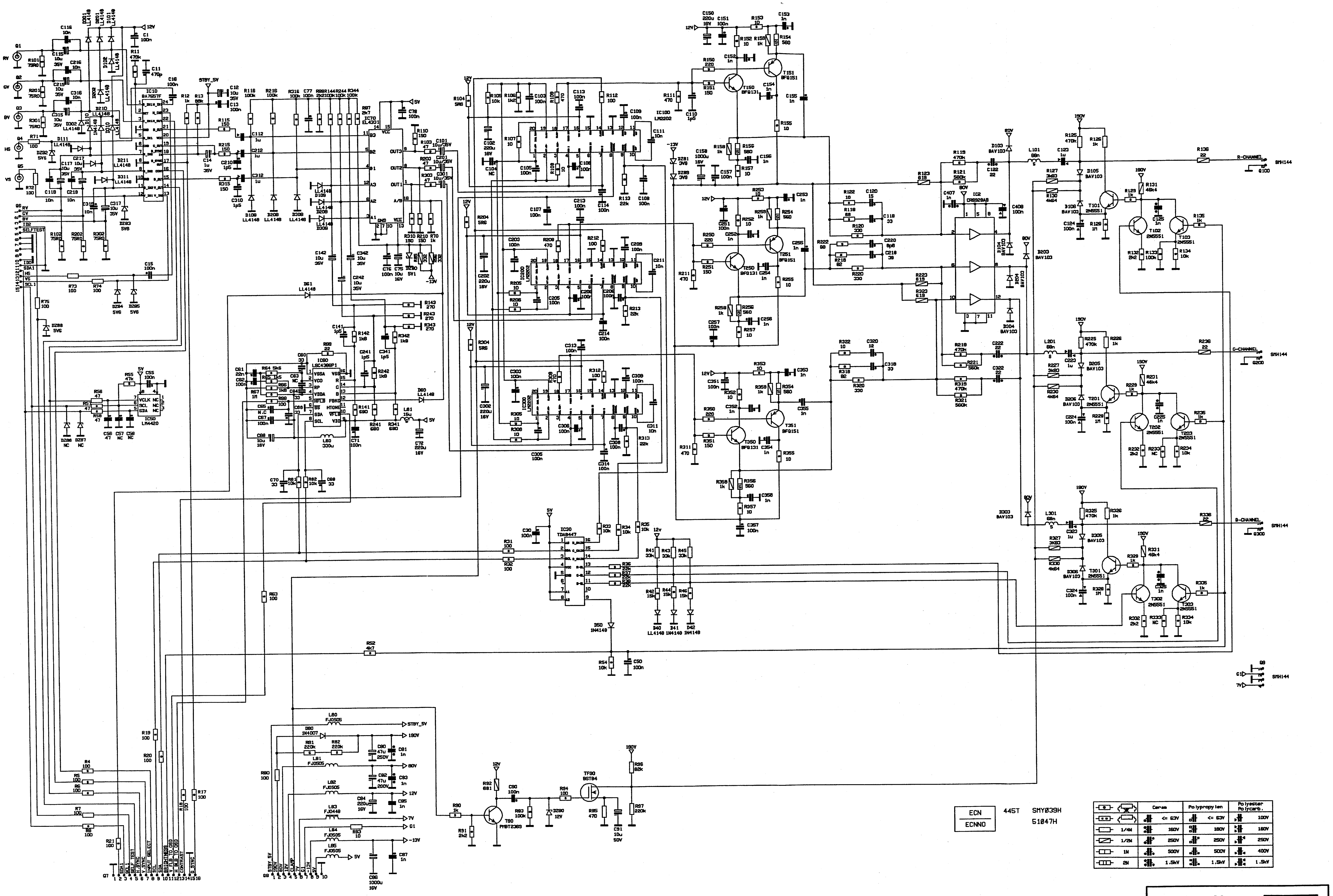
GREEN
BLUE
IC2
IC30
IC100
IC200
IC300
Q1
Q2
Q3
Q4
Q5
Q6


IC10
IC50
IC70
TF90
T90

Part Number	Description	PG	Item Number
AA0641	CF RES 0W25 47R J 2,5-7	1	RY 056
AA0649	CF RES 0W25 100R J 2,5-7	1	RY 007 071 072 073 080 083 074 075
AA0665	CF RES 0W25 470R J 2,5-7	1	RY 095
AA0673	CF RES 0W25 1K0 J 2,5-7	1	RY 126 226 326
AA0709	CF RES 0W25 33K J 2,5-7	1	RY 041 043 045
AA0719	CF RES 0W25 82K J 2,5-7	1	RY 096
AA0731	CF RES 0W25 270K J 2,5-7	1	RY 097
AA0737	CF RES 0W25 470K J 2,5-7	1	RY 125 225 325
AC3584	CHIPRES 0W1 75R 1% 0805 2013	1	RY 101 201 301 102 202 302
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	FRH 001
AC4419	CHIPRES 0W1 5R6 5% 0805 2013	1	RY 104 204 304
AC4425	CHIPRES 0W1 10R 5% 0805 2013	1	RY 107 108 152 153 155 157 205 206 252 253
AC4425	CHIPRES 0W1 10R 5% 0805 2013	1	RY 255 257 305 306 352 353 355 357
AC4433	CHIPRES 0W1 22R 5% 0805 2013	1	RY 069
AC4441	CHIPRES 0W1 47R 5% 0805 2013	1	RY 057 058 103 203 303
AC4443	CHIPRES 0W1 56R 5% 0805 2013	1	RY 118
AC4445	CHIPRES 0W1 68R 5% 0805 2013	1	RY 218
AC4447	CHIPRES 0W1 82R 5% 0805 2013	1	RY 318
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RY 004 005 006 017 018 019 020 031 032
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RY 063 068 021 094 112
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RY 212 312 008
AC4453	CHIPRES 0W1 150R 5% 0805 2013	1	RY 110 115 151 322 210 215 315 251 310 351
AC4457	CHIPRES 0W1 220R 5% 0805 2013	1	RY 150 250 350
AC4459	CHIPRES 0W1 270R 5% 0805 2013	1	RY 143 243 343 122
AC4461	CHIPRES 0W1 330R 5% 0805 2013	1	RY 222 120 220 320
AC4465	CHIPRES 0W1 470R 5% 0805 2013	1	RY 109 111 209 211 309 311
AC4469	CHIPRES 0W1 680R 5% 0805 2013	1	RY 141 241 341
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RY 070 090 129 229 329 235 335 135 012
AC4475	CHIPRES 0W1 1K2 5% 0805 2013	1	RY 106
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	1	RY 065
AC4479	CHIPRES 0W1 1K8 5% 0805 2013	1	RY 066 142 242 342
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RY 088 091 132 232 332
AC4483	CHIPRES 0W1 2K7 5% 0805 2013	1	RY 087
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RY 052
AC4491	CHIPRES 0W1 5K6 5% 0805 2013	1	RY 064
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RY 033 034 035 054 134 234 334 061 062
AC4499	CHIPRES 0W1 12K 5% 0805 2013	1	RY 105
AC4501	CHIPRES 0W1 15K 5% 0805 2013	1	RY 042 044 046
AC4505	CHIPRES 0W1 22K 5% 0805 2013	1	RY 036 037 038
AC4513	CHIPRES 0W1 47K 5% 0805 2013	1	RY 055 113 213 313
AC4517	CHIPRES 0W1 68K 5% 0805 2013	1	RY 013
AC4521	CHIPRES 0W1 100K 5% 0805 2013	1	RY 133 093 116 144 216 244 316 344
AC4525	CHIPRES 0W1 150K 5% 0805 2013	1	RY 219
AC4529	CHIPRES 0W1 220K 5% 0805 2013	1	RY 081 082 319
AC4531	CHIPRES 0W1 270K 5% 0805 2013	1	RY 119
AC4537	CHIPRES 0W1 470K 5% 0805 2013	1	RY 011
AC4539	CHIPRES 0W1 560K 5% 0805 2013	1	RY 121
AC4543	CHIPRES 0W1 820K 5% 0805 2013	1	RY 321
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	1	RY 128 228 328 067
AC4551	CHIPRES 0W1 1M8 5% 0805 2013	1	RY 221
AC6042	CHIPRES 1W 560R 5% 2512 6332	1	RY 154 254 354 156 256 356
AG3351	MF RES 0W5 332R F TC50 2,5-7	1	RY 085 086
AG3381	MF RES 0W5 681R F TC50 2,5-7	1	RY 092
AG3401	MF RES 0W5 1K00 F TC50 2,5-7	1	RY 158 159 258 259 358 359
AG3457	MF RES 0W5 3K83 F TC50 2,5-7	1	RY 127 227 327
AG3465	MF RES 0W5 4K64 F TC50 2,5-7	1	RY 130 230 330
AG3565	MF RES 0W5 46K4 F TC50 2,5-7	1	RY 131 231 331
CB0418	CERCAP N150 22P J 500V Y5: D8	1	CY 122 222 322
CB3105	CHIPCERCAP NP0 1P5 50V C 0805	1	CY 141 241 341 110 210 310
CB3125	CHIPCERCAP NP0 10P 50V J 0805	1	CY 120 320
CB3127	CHIPCERCAP NP0 12P 50V J 0805	1	CY 220
CB3137	CHIPCERCAP NP0 33P 50V J 0805	1	CY 060 064 066 069 070 118 218 318
CB3141	CHIPCERCAP NP0 47P 50V J 0805	1	CY 056

Part Number	Description	PG	Item Number
CB3167	CHIPCERCAP NP0 470P 50V J 0805	2	CY 011
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	3	CY 087 152 153 154 155 156 252 253
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	3	CY 254 255 256 352 353 354 355 356
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CY 105 111 116 119 205 211 216 219 305 311
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CY 316 319
CC3360	CHIPCERCAP X7R 22N 10% 50V 0805	1	CY 061
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 001 013 030 050 055 062 067 071 076
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 077 078 090 103 106 107 108 109 113
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 114 151 157 203 206 208 209 213 214 251
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 257 303 306 308 309 313 314 351 357
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	2	CY 015 016
CK0283	PESCAP MKT 100N K 250V Y5 070812	2	CY 124 408
CK0283	PESCAP MKT 100N K 250V Y5 070812	2	CY 224 324
CK0465	PESCAP MKT 1U0 K 250V Y15 091818	4	CY 123 223 323
CK2864	PESCAP MKT 1U0 K 50V Y5:061108!	5	CY 212 312
CK2864	PESCAP MKT 1U0 K 50V Y5:061108!	5	CY 112
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	1	CY 081 083 085 125 225 325 407
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	2	CY 014
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	1	CY 012 068 075 091 101 115 117 142
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	1	CY 201 215 217 242 301 315 317 342
CN2576	ELCAP 220U M 16V RM5: 105'11X13	2	CY 102 150 202 302 072 084
CN2712	ELCAP 1000U M 16V RM5: 105'11X21	5	CY 086 158
CN3249	ELCAP, 47U M 200V RM5 105' 13X26	9	CY 082
CN3250	ELCAP, 47U M 250V RM7,5 105'16X25	5	CY 080
FA0010	CHIP COIL 100NH 10% SIZE 1210	3	LY 101 201 301
FA0035	CHIP COIL 15UH SIZE 1210	4	LY 061
FJ0448	CHOKE 13UH FERRITE 2X15	2	LY 083
FJ0505	CHOKE 15UH 5% TAPED AXIAL	2	LY 080 081 082 084 085
FJ0705	CHOKE 330UH TAPED AXIAL	2	LY 060
JF0025	DI 1N4148 75V 200MA 4N	1	DY 041 042 050 110
JF0067	DI 1N4007 1000V 1A	1	DY 080
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DY 103 104 105 106 203 204 205 206 303 304
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DY 305 306
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DY 060 061 040 101 102 108 109 111 150
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DY 151 152 201 202 208 209 210 211 250 251
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DY 252 301 302 308 309 310 311 350 351 352
JH0054	ZDI BZX83C12 12V 0.5W 5%	1	DZY 090
JH0081	ZDI ZPY 3.9 3.9V 1.3W 5%	1	DZY 081 089
JH0089	ZDI BZX79B5V1 5.1V 0.5W 2%	2	DZY 080
JH4218	ZDI BZV55C5V6 5V6 5% 500MW SOD80	2	DZY 082 083 084 085 088
JM0273	TR 2N5551 NPN 160V 0,6A	2	TY 101 102 103 201 202 203 301 302 303
JM0354	TR BFQ131 N 18V 150MA 4GHZ SOT54	4	TY 150 250 350
JM0355	TR BFQ151 P 15V 100MA 3.5G SOT54	5	TY 151 251 351
JM4116	TR PMBT2369 N 15V 200MA SOT-23	3	TY 090
JM4305	TR BST84 N 200V 250MA 250MS SOT89	12	TFY 090
LM0958	IC LM2202N VIDEO AMP. 1-CH 230MHZ	15	ICY 100 200 300
LM0961	IC LSC4386P2 OSD WITH OWN CHAR.	21	ICY 060
LM0963	IC CR6927A 150MHZ 3-CH CRT DRIVER	29	ICY 002
LM0968	IC TDA8447 12C BUS 8BIT DAC DIL16	12	ICY 030
LM4420	IC DUAL MODE EEPROM FOR DDC 2.0	2	ICY 050
LM4421	IC BA7657F INPUT SIGNAL SELECTOR	13	ICY 010
LM4422	IC EL4331C MUX-AMP AV=1 SO16	22	ICY 070
QK1325	COAXIAL JACK FEMALE FOR CABLE	4	QY 100 200 300
QK1502	HIGH DENSITY D-15 CONN., FEMALE	14	QY 006
QK1563	BNC-CONN FEMALE 90-DEG 75OHM PCB	14	QY 001 002 003 004 005
QK1701	PICOFLEX HEADER 1X04 1,27MM	3	QY 009
QK1704	PICOFLEX HEADER 1X10 1,27MM	4	QY 008
QK1707	PICOFLEX HEADER 1X16 1,27MM	4	QY 007
UC6891	COOLING PLATE 445T	21	ICY 002
WC0036	UNI6950 SCREW	1	
WN0168	RIWSCREW 1712-3510	3	ICY 002
XW0032	DC340 HEAT SINK,DOW CORNING	9	ICY 002


RV
GV
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HS
VS
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IC70 EL4331
IC80 LSC4386P1
IC50 LM4420
IC100 LM2202
IC200 LM2202
IC300 LM2202
IC2 CR6928AB
IC30 TDA8447
T150 BFQ131
T151 BFQ151
T250 BFQ131
T251 BFQ151
T350 BFQ131
T351 BFQ151
T101 2N5551
T102 2N5551
T103 2N5551
T201 2N5551
T202 2N5551
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T90 PMBT2369
TF90 BST84
R-CHANNEL
G-CHANNEL
B-CHANNEL
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STBY_5V
190V
80V
12V
7V
C1
-13V
5V
Q7
SDA1
SCL1
SELF TEST
H.SYNC
V.SYNC
INPUT SELECT
SCL
SDA
BRIGHTNESS
V FLB TO OSD
H BLB TO OSD
CONTRAST
G SYNC
Q8
STBY 5V
190V
80V
12V
CLAMP
7V
C1
-13V
5V

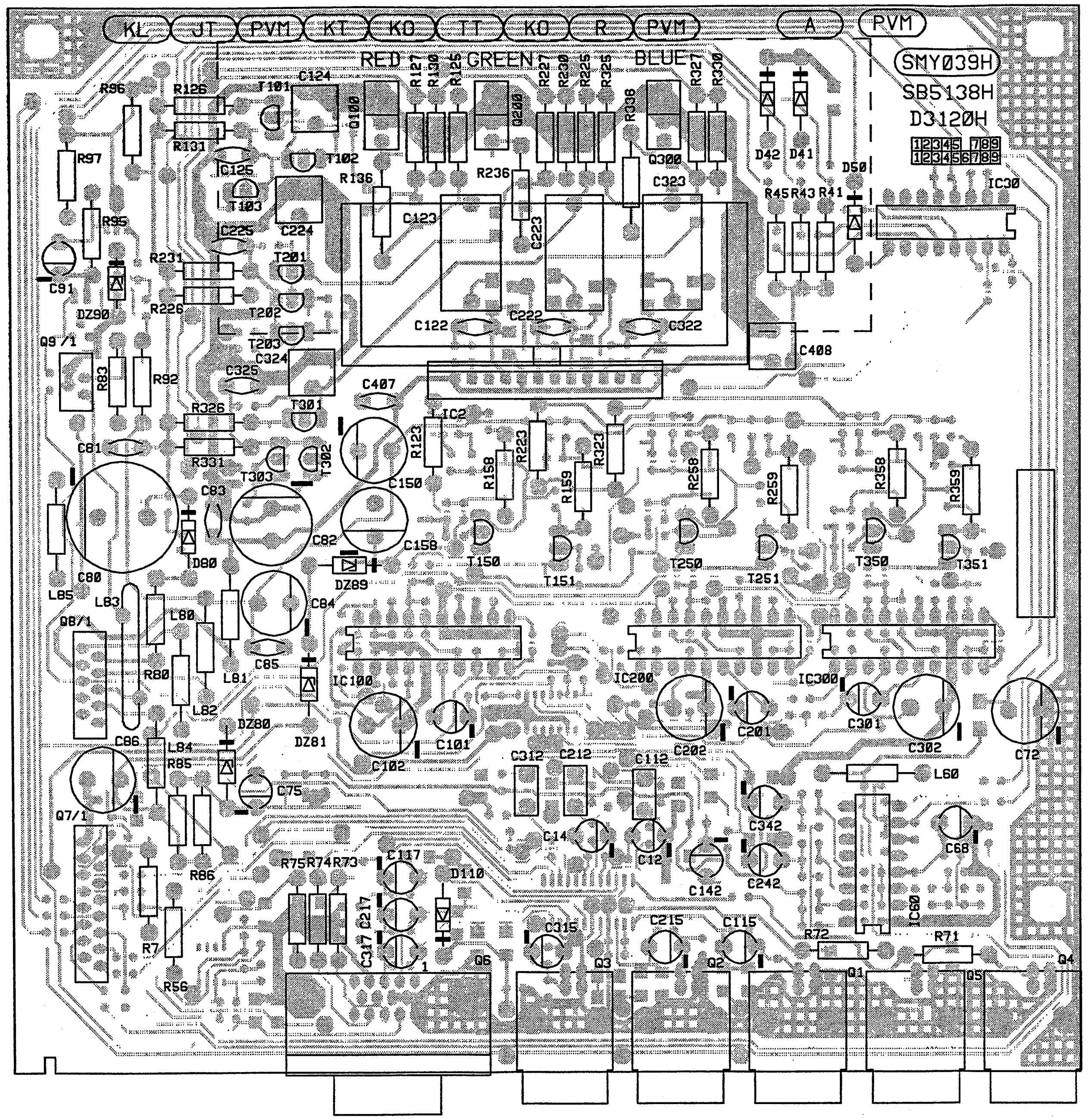
ECN	445T	SMY039H
ECNNO		51047H

		Ceram	Polypropylen	Polyester Polycarb.
		<= 63V	<= 63V	100V
	1/4W	160V	160V	160V
	1/2W	250V	250V	250V
	1W	500V	500V	400V
	2W	1.5kV	1.5kV	1.5kV

SMY039H 3

D3120H 12.98 Page 13

445T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JT
PVM
KI
KO
TT
KO
R
PVM
A
PVM
RED
GREEN
BLUE
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SB5138H
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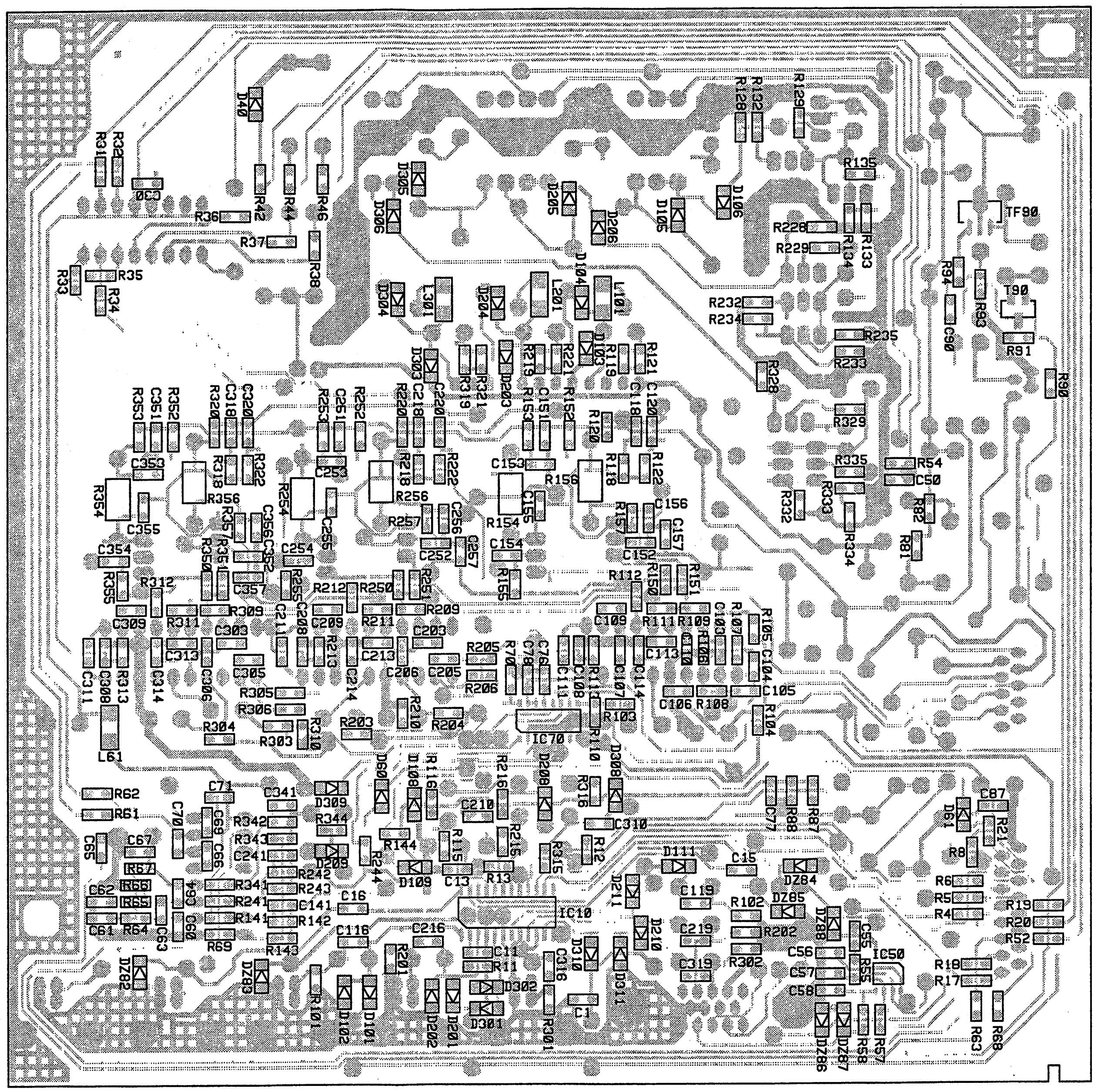
IC100
IC200
IC300
IC2
C408


TF90
T90
IC70
IC10
IC50
L61

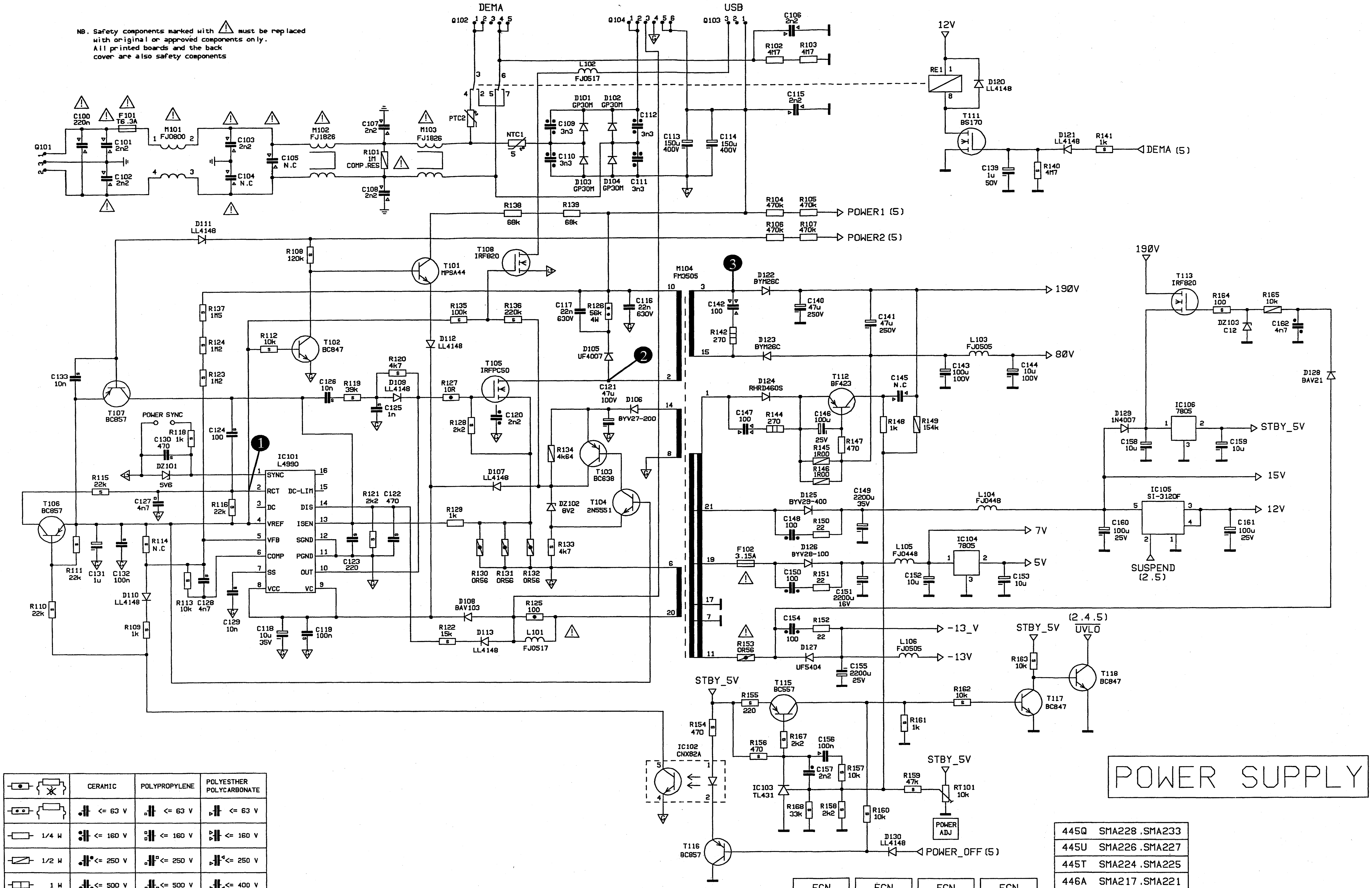
Part Number	Description	PG	Item Number
AA0633	CF RES 0W25 22R J 2,5-7	1	RA 150 151 152 350 353 358 361 206
AA0641	CF RES 0W25 47R J 2,5-7	1	RA 236
AA0649	CF RES 0W25 100R J 2,5-7	1	RA 563 569 577 580 581 374 377 578
AA0657	CF RES 0W25 220R J 2,5-7	1	RA 225 322 346 348
AA0665	CF RES 0W25 470R J 2,5-7	1	RA 147 431
AA0673	CF RES 0W25 1K0 J 2,5-7	1	RA 148 329 395 396 342 398 420 429
AA0673	CF RES 0W25 1K0 J 2,5-7	1	RA 129 209 223 501 504
AA0673	CF RES 0W25 1K0 J 2,5-7	1	FOL
AA0681	CF RES 0W25 2K2 J 2,5-7	1	RA 380 381 514 559 339 391
AA0685	CF RES 0W25 3K3 J 2,5-7	1	RA 411
AA0687	CF RES 0W25 3K9 J 2,5-7	1	RA 430
AA0689	CF RES 0W25 4K7 J 2,5-7	1	RA 378 542 543 544 545 546 547 583 303 382
AA0689	CF RES 0W25 4K7 J 2,5-7	1	RA 212 234 435 535 550 512
AA0697	CF RES 0W25 10K J 2,5-7	1	RA 216 401 421 450 584
AA0697	CF RES 0W25 10K J 2,5-7	1	JA 003 019
AA0699	CF RES 0W25 12K J 2,5-7	1	RA 505
AA0705	CF RES 0W25 22K J 2,5-7	1	RA 517 573 230
AA0717	CF RES 0W25 68K J 2,5-7	1	RA 138 139
AA0721	CF RES 0W25 100K J 2,5-7	1	RA 459
AA0723	CF RES 0W25 120K J 2,5-7	1	RA 449
AA0725	CF RES 0W25 150K J 2,5-7	1	RA 324 448
AA0729	CF RES 0W25 220K J 2,5-7	1	RA 228
AA0731	CF RES 0W25 270K J 2,5-7	1	RA 414
AA0737	CF RES 0W25 470K J 2,5-7	1	RA 439 221 104 105 106 107
AA0745	CF RES 0W25 1M0 J 2,5-7	1	RA 440 441
AA0754	CF RES 0W25 2M2 J 2,5-7	1	RA 385 388
AA0755	CF RES 0W25 2M7 J 2,5-7	1	RA 390
AA0761	CF RES 0W25 4M7 J 2,5-7	1	RA 102 103 334 229
AB0585	NF RES 0W25 0R22 J 2,5-7 CF	1	RA 463 464
AB0609	NF RES 0W25 2R2 J 2,5-7 CF	1	RA 281
AB0625	NF RES 0W25 10R J 2,5-7 CF	1	RA 127
AB0649	NF RES 0W25 100R J 2,5-7 CF	1	RA 125
AB0785	NF RES 0W5 0R22 J 4-11 CF	2	RA 318
AB0795	NF RES 0W5 0R56 J 4-11 CF	2	RA 130 131 153 405 406 132
AC3366	CHIPRES 5K90 0W1 1% 0805	1	RA 272 277
AC3388	CHIPRES 10K0 0W1 1% 0805	1	RA 270
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	RA 344
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	JA 802 803 804 805 806 808 809 810
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	JA 811 813 815 818 819 823
AC4409	CHIPRES 0W1 2R2 5% 0805 2013	1	RA 202
AC4425	CHIPRES 0W1 10R 5% 0805 2013	1	RA 407 427 442 443 222
AC4433	CHIPRES 0W1 22R 5% 0805 2013	1	RA 309 310 316
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RA 164 305 417 422 452 453 454 455 456 457
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RA 458 527 340
AC4455	CHIPRES 0W1 180R 5% 0805 2013	1	RA 347 355 371
AC4457	CHIPRES 0W1 220R 5% 0805 2013	1	RA 155 317 354 356 370 372 526
AC4465	CHIPRES 0W1 470R 5% 0805 2013	1	RA 154 156 232 349 352 357 360 365 368
AC4465	CHIPRES 0W1 470R 5% 0805 2013	1	RA 373 376 419 529 433
AC4467	CHIPRES 0W1 560R 5% 0805 2013	1	RA 521
AC4471	CHIPRES 0W1 820R 5% 0805 2013	1	RA 337 451
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RA 109 141 238 161 210 326 336 404 338 548
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RA 528 531 549 118 425
AC4479	CHIPRES 0W1 1K8 5% 0805 2013	1	RA 217
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RA 128 158 167 121 426 306 314 327 418 552
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RA 553 566 575
AC4483	CHIPRES 0W1 2K7 5% 0805 2013	1	RA 536 537 538 539 540 541 582
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RA 133 237 304 313 444 445 218 120
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RA 530 532
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RA 551 562 572 574
AC4493	CHIPRES 0W1 6K8 5% 0805 2013	1	RA 201
AC4495	CHIPRES 0W1 8K2 5% 0805 2013	1	RA 511
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 112 113 157 160 162 163
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 224 510 226 502 503 301 302 311 328
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 330 331 384 403 460 567 576
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 205 408 554 211
AC4501	CHIPRES 0W1 15K 5% 0805 2013	1	RA 122
AC4505	CHIPRES 0W1 22K 5% 0805 2013	1	RA 110 111 116 115 231 393 399
AC4505	CHIPRES 0W1 22K 5% 0805 2013	1	RA 402 410 520 233 409 235
AC4509	CHIPRES 0W1 33K 5% 0805 2013	1	RA 168 159
AC4511	CHIPRES 0W1 39K 5% 0805 2013	1	RA 119 416
AC4513	CHIPRES 0W1 47K 5% 0805 2013	1	RA 203 208 558 386 387 519
AC4519	CHIPRES 0W1 82K 5% 0805 2013	1	RA 335
AC4521	CHIPRES 0W1 100K 5% 0805 2013	1	RA 135 239 412 413 518 525
AC4521	CHIPRES 0W1 100K 5% 0805 2013	1	RA 239
AC4523	CHIPRES 0W1 120K 5% 0805 2013	1	RA 108
AC4529	CHIPRES 0W1 220K 5% 0805 2013	1	RA 136
AC4537	CHIPRES 0W1 470K 5% 0805 2013	1	RA 227 522 394 561
AC4547	CHIPRES 0W1 1M2 5% 0805 2013	1	RA 123 124
AC4549	CHIPRES 0W1 1M5 5% 0805 2013	1	RA 137
AC4553	CHIPRES 0W1 2M2 5% 0805 2013	1	RA 389
AC4561	CHIPRES 0W1 4M7 5% 0805 2013	1	RA 140 214 383
AC4569	CHIPRES 0W1 10M 5% 0805 2013	1	RA 533
AD0349	COMPRES 0W5 100R K 4-11	1	RA 321
AD0373	COMPRES 0W5 1K0 K 4-11	1	RA 332
AD0397	COMPRES 0W5 10K K 4-11	1	RA 333
AD0445	COMPRES 0W5 1M0 K 4-11	1	RA 101
AG3101	MF RES 0W5 1R00 F TC200 2,5-7	1	RA 145 146 279 432
AG3119	MF RES 0W5 1R54 F TC200 2,5-7	1	RA 424
AG3133	MF RES 0W5 2R15 F TC200 2,5-7	1	RA 423 462
AG3165	MF RES 0W5 4R64 F TC200 2,5-7	1	RA 434
G3233	MF RES 0W5 21R5 F TC50 2,5-7	1	RA 437
AG3273	MF RES 0W5 56R2 F TC50 2,5-7	1	RA 315
AG3301	MF RES 0W5 100R F TC50 2,5-7	1	RA 341 392
AG3343	MF RES 0W5 274R F TC50 2,5-7	1	RA 280
AG3433	MF RES 0W5 2K15 F TC50 2,5-7	1	RA 343
AG3465	MF RES 0W5 4K64 F TC50 2,5-7	1	RA 134 446 447
AG3473	MF RES 0W5 5K62 F TC50 2,5-7	1	RA 345
AG3477	MF RES 0W5 6K19 F TC50 2,5-7	1	RA 204
AG3489	MF RES 0W5 8K25 F TC50 2,5-7	1	RA 307
AG3501	MF RES 0W5 10K0 F TC50 2,5-7	1	RA 271 165
AG3519	MF RES 0W5 15K4 F TC50 2,5-7	1	RA 461
AG3543	MF RES 0W5 27K4 F TC50 2,5-7	1	RA 308
AG3609	MF RES 0W5 121K F TC50 2,5-7	1	RA 323
AG3619	MF RES 0W5 154K F TC50 2,5-7	1	RA 149
AG3643	MF RES 0W5 274K F TC50 2,5-7	1	RA 415
AJ2523	MO RES 2W0 10R J 6-17	2	RA 428
AJ2763	MO RES 2W0 100R J 6-17	2	RA 351 359 375 436
AJ2863	MO RES 2W0 270R J 6-17	2	RA 142 144
AJ3425	MO RES 4W0 56K J 9-22	3	RA 126
AQ2214	TPMET.AA H10 1K0 RM 5X10 6-HOLE	3	RTA 401
AQ2219	TPMET.AA H10 47K RM 5X10 6-HOLE	3	RTA 301
AQ2347	TPMET. H10 10K RM 5X10 6-HOLE	4	RTA 101
AW0079	PTC-THERMISTOR 18R/25'C RM5	7	PTCA 002
AW0111	NTC-THERMISTOR 5R0/25'C RM5+2,5	7	NTCA 001
CA0324	CERCAP Y5P 100P K 1KV Y5 D8 L	2	CA 148 150 154 323 424 425 446
CB0418	CERCAP N150 22P J 500V Y5: D8	1	CA 532
CB3133	CHIPCERCAP NP0 22P 50V J 0805	1	CA 339
CB3137	CHIPCERCAP NP0 33P 50V J 0805	1	CA 517 518
CB3141	CHIPCERCAP NP0 47P 50V J 0805	1	CA 534 248 533
CB3145	CHIPCERCAP NP0 68P 50V J 0805	1	CA 302 536
CB3151	CHIPCERCAP NP0 100P 50V J 0805	1	CA 124 301 303 313 535
CB3159	CHIPCERCAP NP0 220P 50V J 0805	1	CA 123 427
CB3163	CHIPCERCAP NP0 330P 50V J 0805	1	CA 314 501
CB3167	CHIPCERCAP NP0 470P 50V J 0805	2	CA 122 406 409
CB3171	CHIPCERCAP NP0 680P 50V J 0805	2	CA 209
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	3	CA 242 308 321 210 125
CC0170	CERCAP Y5P 470P K 500V Y5: D8	1	CA 419
CC0170	CERCAP Y5P 470P K 500V Y5: D8	1	FOL
CC0240	CERCAP Y5P 2N2 K 500V Y5: D9	1	CA 120 157 318 322 426
CC0513	CERCAP Y5V 3N3 S 1KV Y7,5 D14	2	CA 109 110 111 112 410
CC0530	CERCAP Z5U 4N7 S 500V Y5: D9	1	CA 162
CC0530	CERCAP Z5U 4N7 S 500V Y5: D9	1	CA 420
CC0772	CERCAP Z5V 10N Z 50V Y5: D8	1	CA 334
CC3240	CHIPCERCAP X7R 2N2 10% 50V 0805	1	CA 405
CC3260	CHIPCERCAP X7R 3N3 10% 50V 0805	1	CA 249
CC3280	CHIPCERCAP X7R 4N7 10% 50V 0805	1	CA 234 338 415 128
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CA 133 126 335 204 214
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CA 241 304 341 404 511 553
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CA 503 542 543
CC3360	CHIPCERCAP X7R 22N 10% 50V 0805	1	CA 202
CC3580	CHIP CERCAP Y5V 100N Z 50V 0805	1	CA 129
CC4400	CHIPCAP X7R 47N K 50V 1206	2	CA 207 208 502
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CA 119 132 216 227 232 316 324 337 402 436
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CA 437 438 439 440 441 442 529 206 218
CE0081	X2-CAP 220N K 250VAC Y20 121725	8	CA 100
CE0116	Y-CAP 2N2 M 400VAC Y12,5 SDPJ16	4	CA 101 102 106 107 108 115 103 104
CE0522	PCACAP MKC 100N J 63V Y5: 040808	4	CA 413
CE2004	IMPCAP 100P K 1K6V Y15 051118	3	CA 142 147
CE2094	IMPCAP 820P K 1K5V Y15 061218	4	CA 307
CE2196	IMPCAP 2N2 J 2KV Y22,5 081628	6	CA 416 417
CE2435	IMPCAP 15N J 400V Y10 061113	3	CA 429
CE2671	IMPCAP 33N J 400V Y15 061118	4	CA 443 430
CE2671	IMPCAP 33N J 400V Y15 061118	4	CA 418
CE2802	IMPCAP 51N J 400V Y15 081418	3	CA 421 422 423
CE2852	IMPCAP 68N J 400V Y15 081418	4	CA 431
CE2931	IMPCAP 100N J 250V Y15 081418	4	CA 306
CE2964	IMPCAP 150N K 250V Y15 091518	5	CA 432
CE3063	IMPCAP 330N J 250V Y22,5 111928	5	CA 433
CE3163	IMPCAP 680N J 250V Y22,5 112128	7	CA 434
CE3223	"IMPCAP 1U2 J 250V""G""Y22,5 091928"	7	CA 435
CG2663	PPRCAP KP 4N7 H 63V Y5: 060808	4	CA 127 408
CK0165	PESCAP MKT 22N K 630V Y10 061213	2	CA 116 117
CK0341	PESCAP MKT 220N K 100V Y10 051113	3	CA 233
CK1388	PESCAP MKT 10N K 250V Y7,5 040911	2	CA 305 407
CK1546	PESCAP MKT 47N K 100V Y7,5 040911	2	CA 246
CK2545	PESCAP 47N K 63V Y5: 030708	2	CA 312
CK2626	PESCAP MKT 100N K 63V Y5: 030808	2	CA 156 336
CK2663	PESCAP MKT 150N J 63V Y5: 040908	3	CA 225
CK2704	PESCAP MKT 220N K 63V Y5: 040908	3	CA 551
CK2784	PESCAP MKT 470N K 63V Y5: 051008	3	CA 228
CK2864	PESCAP MKT 1U0 K 50V Y5:061108!	5	CA 319 403
CN0118	ELCAP 150U M 400V R10 SNAP 25X40	16	CA 113 114
CN0204	ELCAP 2U2 M 50V RM5 : 6*12	1	CA 320 444 445 509
CN0204	ELCAP 2U2 M 50V RM5 : 6*12	1	CA 519 520 521 523 524 528
CN0819	ELCAP'2200U M 25V RM7,5 105'17X38	5	CA 149 151 155
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	2	CA 139 317 515 131 212

SMA224

Part Number	Description	PG	Item Number	
CN2027	ELCAP 47U M 50V RM5: 105' 9X12	2	CA 205 226	
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	1	CA 152 153 158 159 516 401 311	
CN2037	ELCAP 10U M 160V RM5 105' 11X21	4	CA 144	
CN2228	ELCAP 4U7 M 200V RM5 105' 10X12,5	5	CA 245	
CN2461	ELCAP- 47U M 100V RM5 105, 10X16	4	CA 121	
CN2543	ELCAP 100U M 50V RM5 105 11X13	2	CA 146 160 161 215 230 428 412 217	
CN2546	ELCAP 100UF M 100V RM5 105' 14X21	5	CA 143	
CN2553	ELCAP 0U47F M 50V RM5: 105' 6X12	1	CA 211 552	
CN2566	ELCAP 4U7F M 50V RM5: 105'6X12MM	2	CA 203 325	
CN2581	ELCAP 220U M 35V RM5 105 11X13	3	CA 229 231	
CN2581	ELCAP 220U M 35V RM5 105 11X13	3	CA 506 507	SMA225
CN3206	ELCAP 10U M 50V RM5 105' 8X14	3	CA 118	
CN3250	ELCAP, 47U M 250V RM7,5 105'16X25	5	CA 140 141	
CN3312	ELCAP 100U M 250V RM7.5 105'18X36	9	CA 411	
CN3402	ELCAP,1000U M 16V RM5 +105'13X34	12	CA 414	
FJ0274	CHOKE 1,0UH	2	LA 407	
FJ0448	CHOKE 13UH FERRITE 2X15	2	LA 104 105	
FJ0505	CHOKE 15UH 5% TAPED AXIAL	2	LA 103 106	
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	2	LA 101	
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	2	LA 102	SMA225
FJ0725	BEAD INDUCTOR MIN IMP360HM	2	FRA 401 402	
FJ0733	LEAD INDUCTOR 56UH 10 %	7	LA 401 402 406	
FJ0735	LEAD INDUCTOR 82UH 10% Y=5MM	7	LA 405	
FJ0800	EMI/RFI CHOKE 60MH 3A(AC)	14	MA 101	
FJ1826	INPUT CHOKE E30/7 2X6,9 MH	12	MA 102 103	
FM0636	FLYBACK TRAFO 30..120KHZ 445T	38	MA 301	
FM2560	DYNAMIC FOCUS TRAFO E20/6 445R	12	MA 404	
FM2569	CENTERING COIL E30/7 1.32UH 445T	12	MA 403	
FM2570	DRIVER TRAFO E20/6 N67 17.2U 445T	12	MA 402	
FM2571	INPUT TRAFO ETD34 N87 382UH 445T	20	MA 401	
FM3505	SMPS-TRAFO ETD49 N67 445T	19	MA 104	
FU0721	FIXED LINEARITY COIL N-S 445T	8	LA 403	
FU0722	FIXED LINEARITY COIL S-N 445T	15	LA 404	
JB0044	DI DTV110F 1500V 10A TO220FI	14	DA 414	
JB0047	DI GP30M 1000V 3A 3,0US DO201AD	4	DA 101 102 103 104	
JF0025	DI 1N4148 75V 200MA 4N	1	DA 204 208 209 401 402 406 302 303	
JF0025	DI 1N4148 75V 200MA 4N	1	DA 429 213 214	
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	4	DA 105 409	
JF0033	DI UF5404 400V 3A 50NS DO201AD	4	DA 127	
JF0034	DI UF5406 600V 3A 75N	9	DA 306	
JF0060	DI 1N4002 100V 1A	1	DA 207	
JF0067	DI 1N4007 1000V 1A	1	DA 129	
JF0072	DI BAV21 200V 250MA 50N	1	DA 128 315 432	
JF0072	DI BAV21 200V 250MA 50N	1	DA 205	
JF0073	DI RGP10G 400V 1A 150N	2	DA 418 419 420 427 416 423 424	
JF0096	DI BYV28-100 100V 3.5A 30N	7	DA 126 413 421 422	
JF0104	DI BYV27-200 200V 2A 25N SOD57	3	DA 411 412 106 430	
JF0107	DI BYV26C 600V 1A 30N	5	DA 426	
JF0166	DIODE BYM26C 600V 2.3A SOD-64	6	DA 122 123	
JF0171	DI BYV29-400 400V 8A 50NS TO-220	9	DA 125	
JF0206	SCHOTTKY RECTIFIER 30V 1A 1N5818	4	DA 405	
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DA 407 408 431 108	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA 107 109 110 120 121 201 206 210 211 301	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA 304 305 307 316 317 318 403 404 212	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA 504 507 508 417 428 111 130 112 113	
JF4011	SCHOTTKY BARRIER 30V 200MA SOT-23	3	DA 202	
JF4101	DI RHRD460S 600V 4A 30NS TO-252	8	DA 124 410	
JH0053	ZDI BZX83C5V6 5.6V 0.5W 5%	1	DZA 101	
JH0054	ZDI BZX83C12 12V 0.5W 5%	1	DZA 402 404 405 103	
JH0059	ZDI BZX83C8V2 8.2V 0.5W 5%	1	DZA 102	
JH0085	ZDI BZX83C22 22V 0.5W 5%	1	DZA 201	
JH0086	ZDI BZX83C4V7 4.7V 0.5W 5%	2	DZA 403 503	
JH0169	ZDI BZX55B3V9 3,9V 0,5W 2%	3	DZA 502	
JH4118	ZDI BZX84C12 0.225W 5% SOT-23	2	DZA 301	
JL0062	OPTOCOUPLER CNY17F-2 5,3KV	8	ICA 102	
JM0099	TR BC547B N 45V 100A 200M:	1	TA 301 305 307	
JM0100	TR BC557B P 45V 100A 200M:	1	TA 115 302 306	
JM0202	TR MPSA44 N 400V 300MA TO92	3	TA 101	
JM0203	TR MPSA42 N 300V 500MA TO92	3	TA 415 416	
JM0205	TR BF423 P 250V 25MA 60M:	3	TA 112	
JM0206	TR BF420 N 300V 100MA 60M TO-92:	12	TA 410 417	
JM0227	TR MPS2369 N 15V 200MA 500M	3	TA 207 405	
JM0239	TR BC638 P 60V 1A 50M:	4	TA 103 336	
JM0244	TR BF422 N 250V 25MA 60M: TO92	2	TA 311 425	
JM0252	TR BC639-10 N 100V 1.5A TO92	3	TA 412	
JM0273	TR 2N5551 NPN 160V 0,6A	2	TA 104 205 206	
JM0280	TR 2N5401 P 150V 0.6A 100M	2	TA 411	
JM0285	TR BC637-16 N 40V 1A 60M:	4	TA 339	
JM0334	TR BD135 NPN 45V 1A5 250MHZ TO126	4	TA 328 330 334	
JM0335	TR BD136 PNP 45V 1A5 250MHZ TO126	4	TA 329 331 335	
JM0341	TR BUH1215(435B) N 1500V 19ATO218	19	TA 409	
JM4105	TR BC847B N 45V 0.1A SOT23	4	TA 117 118 203 312 315 316 319 102 337 324	
JM4105	TR BC847B N 45V 0.1A SOT23	4	TA 327 404 406 208 508	
JM4114	TR BC857B P 45V 100MA 150M:	2	TA 106 107 116 509 426 310 313 314 317	
JM4114	TR BC857B P 45V 100MA 150M:	2	TA 318 338 325 326 401 402 407 506	
JM4401	TR BCR141W 50V 0.1A (2X22K)SOT323	2	TA 511 512 513 514 515 516 517	
JS0019	FET IRF640 N 200V 18A TO220	13	TA 420	
JS0019	FET IRF640 N 200V 18A TO220	13	TA 421 422 423 424	
JS0019	FET IRF640 N 200V 18A TO220	13	TA 418 419	
JS0026	FET IRFBC40 N 600V 6.0A TO220 AB	12	TA 403	
JS0030	FET IRF620 200V 5A 0.8R TO-220	7	TA 413 414	
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA 113	
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA 108	SMA225
JS0049	FET 2SJ306 P 250V 3A 1.5R TO220	19	TA 303	
JS0051	FET IRF9540 P 100V 19A 0.2R TO220	14	TA 408	
JS0062	FET IRFPC50 N 600V 11A OR60 TO247	17	TA 105	
JS0063	FET IRFIBE30G N 800V 2,1A 3R0 220	23	TA 304	
JS1006	FET BS170 N 60V 500MA	10	TA 111	
JZ0020	SILICONE INSUL. 13X19MM	1	IC 203 104 106	
JZ0020	SILICONE INSUL. 13X19MM	1	TA 113 403 408 420 421 422 423 424	
JZ0020	SILICONE INSUL. 13X19MM	1	DA 125	
JZ0022	SILICONE INSUL. 22X30MM	3	TA 105 409	
JZ0023	SILICONE INSUL. 10X13MM	4	TA 328 329 330 331 334 335	
LM0067	IC UA7805UC +5V REGULATOR TO-220	13	ICA 104 106	
LM0663	IC TL431 VOLTAGE REFERENCE TO-92	6	ICA 103	
LM0893	IC 74HC14N 6XINV.SCHMITT-TRIGGER	5	ICA 502	
LM0930	IC STV9379 VERT.DEFL.BOOSTER	15	ICA 203	
LM0931	IC MAS1012 DYN.CONV.CONTROL IC	21	ICA 303	
LM0957	IC UC3843 CURR.MODE PWM CON.DIP-8	6	ICA 401	
LM0959	IC L4990 PRIMARY CONTROLLER DIP16	10	ICA 101	
LM0962	IC TDA9106A DEFLECTION PROCESSOR	19	ICA 201	
LM0967	IC SI-3120FA 12V LOWDROP REG 2%	9	ICA 105	
LM0969	IC ST72E75 MONITOR UC DIP56	30	ICA 501	
LM0981	IC M24128 EEPROM 128K (16X8) DIL8	19	ICA 504	
LM4022	IC 74HCT74 DUAL D-FLIP-FLOP SO-14	5	ICA 503	
LM4111	IC 4538BT	5	ICA 301	
LM4406	IC LM324 QUAD OP-AMP SO-14	5	ICA 304	
LZ0003	IC-SOCKET 8-POLE DIL SINGLE LEAF	3	ICA 504	
LZ0063	IC-SOCKET 56-POLE DUAL LEAF 1.78	10	ICA 501	
QA0098	CRYSTAL 24.000MHZ FUNDAM. HC-49/U	6	XA 501	
QH0065	RELAY PCB-MOUNTING 12V 5A/250V	12	REA 001	
QK1285	ROW CONN 1X05 5,08/7,62 VERT/LOCK	3	QA 102	
QK1287	PIN STRIP 1X04 8,0/10.0 VERT MALE	3	QA 401	
QK1415	CRIPLET CONN FOR 2-SIDED PCB	1		
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	1	002	
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	1	002	
QK1587	COOLING & SUPP.PART FOR RESISTOR	1	RA 126	
QK1633	ROW CONN 1X03 2,5 V STGLOCK SNAP	2	QA 103	SMA225
QK1650	MAINS CONN MALE 90DEG W/PCB SNAPS	8	QA 101	
QK1701	PICOFLEX HEADER 1X04 1,27MM	3	QA 504	
QK1704	PICOFLEX HEADER 1X10 1,27MM	4	QA 505	
QK1713	USB CONN SERIE-A DOUBLE STACKED	11	QA 507 508	SMA225
QK1714	USB CONN SERIE-B	7	QA 509	SMA225
QK1729	SHROUDED HEADER 8POS 2,5 JST VER	3	QA 302	
QK1731	SHROUDED HEADER 3POS 2,5 JST VER	2	QA 301	
QM1006	PICOFLEX ASSY BI-IDC 16-POS 550MM	12	QA 502	
QM1007	PICOFLEX ASSY BI-IDC 10-POS 500MM	10	QA 501	
QM1039	PICOFLEX ASSY BI-IDC 20-POS 200MM	11	QA 506	SMA225
QM1061	PICOFLEX ASSY BI-IDC 4-POS 650MM	6	QA 503	SMA225
QT0002	SPARK GAP 1,2KV +-500V R=5,0MM	3	GLA 302 303	
QT0102	FUSEHOLDER CLIPS 5*20MM R=5,0MM	1	FA 101	
QT0207	GLIMM LAMP 95V 6*12,5MM	4	GLA 301	
QT0733	FUSE R=5,0MM T 3,15A 250V IEC127	4	FA 102	
QT0775	FUSE 5*20MM T 6,3A 250V 1500A	3	FA 101	
SE2530	POWER SYNC. WIRE 447C	6	MA 301	
SE2643	VERT. WIRE 445R	6	VA 001 002	
SE2717	MAGN.FIELD COMPENSATION WIRE	7		
UC0859	SPRING DN44473	2	TA 113 303 304 403 408 420 421 422 423	
UC0859	SPRING DN44473	2	TA 424	
UC0859	SPRING DN44473	2	ICA 104 105 106	
UC0859	SPRING DN44473	2	DA 125	
UC1140	COOLING PLATE DN CU	2	TA 113 303 304 403 408 420	
UC1140	COOLING PLATE DN CU	2	TA	
UC1140	COOLING PLATE DN CU	2	ICA 104 105 106	
UC1140	COOLING PLATE DN CU	2	DA 125	
UC6551	SPRING DN 49256	3	DA 414	
UC6551	SPRING DN 49256	3	ICA 203	
UC6552	FASTSPRING DN 49257	3	TA 105 409	
UC6564	COOLINGPLATE PN303153	5	TA 105	
UC6564	COOLINGPLATE PN303153	5	ICA 203	
UC6647	COOLING PLATE	9	TA 328 329 330 331 334 335	
UC6664	COOLING PLATE	14	TA 421 422 423 424	
UC6668	FASTSPRING TO126	2	TA 328 329 330 331 334 335	
UC6743	SUPPORT	6		
UC6752	WASHER 447E	1	MA 301	
UC6752	WASHER 447E	1		
UC6784	COOLING PLATE PN410058 447E	4	DA 124	
UC6893	SUPPORT 445P	5		
UC6912	COOLING PLATE 445T	10	TA 409	
UC6912	COOLING PLATE 445T	10	DA 414	
UJ0125	TIES SST 1 M	1		
UT1830	KNOB BIG DN30175 445T	8		
UT1831	KNOB SMALL DN30176	7		
UT1832	"BUTTON DN30177 445T 21"""	3		
WC0353	PT-SCR KB 40X10 WN1447 FE/ZN YELL	1	MA 301	
WC0446	SCREW 2,9X8 FE/ZN	1		

Part Number	Description	PG	Item Number
WC0530	SCREW 2,9X10 YELLOW FE/ZN	2	MA 301
XW0032	DC340 HEAT SINK,DOW CORNING	9	TA 105 409
XW0032	DC340 HEAT SINK,DOW CORNING	9	DA 414
XW0032	DC340 HEAT SINK,DOW CORNING	9	ICA 203
AA0665	CF RES 0W25 470R J 2,5-7	1	RZ 603
AA0697	CF RES 0W25 10K J 2,5-7	1	RZ 607
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RZ 604
AC4457	CHIPRES 0W1 220R 5% 0805 2013	1	RZ 608
AC4465	CHIPRES 0W1 470R 5% 0805 2013	1	RZ 601
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RZ 602
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RZ 605 609
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RZ 606
AC4513	CHIPRES 0W1 47K 5% 0805 2013	1	RZ 610
AP0191	PMET 10K LIN EVJ02KFB6B14 CCLICK	10	PZ 602 603
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DZ 601
JL0058	LED DUALCOLOR RED/GREEN 3 MM	4	LEDZ 601
JL0061	LED GREEN MPG3372X 3MM	3	LEDZ 602 603
JM4105	TR BC847B N 45V 0.1A SOT23	4	TZ 601
QG0329	MINIATURE PUSH SWITCH 0.1A 24VDC	10	SWZ 601 602
QG0401	ENCODER 20PULSE/ 360' WITH SWITCH	14	PZ 601
QM1034	PICOFLEX ASSY BI-IDC 10-POS 120MM	8	QZ 601
QM1035	PICOFLEX ASSY BI-IDC 4-POS 120MM	7	QZ 602

NB. Safety components marked with ⚠ must be replaced
with original or approved components only.
All printed boards and the back
cover are also safety components


DEMA
Q102 1 2 3 4 5
Q104 1 2 3 4 5 6
USB
Q103 3 2 1
C106 2n2
R102 4M7
R103 4M7
12V
RE1
D120 LL4148
L102 FJ0517
C115 2n2
T111 BS170
D121 LL4148
R141 1k
DEMA (5)
C139 1u 50V
R140 4M7
Q101
C100 220n
F101 T6.3A
C101 2n2
C102 2n2
M101 FJ0800
C103 2n2
C104 N.C
C105 N.C
M102 FJ1826
C107 2n2
R101 1M COMP.RES
C108 2n2
M103 FJ1826
PTC2
NTC1
D101 GP30M
D102 GP30M
C109 3n3
C110 3n3
C112 3n3
C111 3n3
D103 GP30M
D104 GP30M
C113 150u 400V
C114 150u 400V
R104 470k
R105 470k
POWER1 (5)
R106 470k
R107 470k
POWER2 (5)
R138 68k
R139 68k
D111 LL4148
R108 120k
T101 MPSA44
T108 IRF820
M104 FM3505
D122 BYM26C
C140 47u 250V
190V
C142 100
R142 270
C141 47u 250V
D123 BYM26C
L103 FJ0505
C143 100u 100V
C144 10u 100V
80V
R137 1M5
R124 1M2
R123 1M2
R112 10k
T102 BC847
R135 100k
R136 220k
C117 22n 630V
R126 56k 4W
C116 22n 630V
D105 UF4007
D112 LL4148
R120 4k7
D109 LL4148
C126 10n
R119 39k
C125 1n
R127 10R
T105 IRFPC50
R128 2k2
C120 2n2
C121 47u 100V
D106 BYV27-200
C133 10n
T107 BC857
POWER SYNC
R118 1k
C130 470
DZ101 5V6
C124 100
IC101 L4990
SYNC
RCT
DC
VREF
VFB
COMP
SS
VCC
DC-LIM
DIS
ISEN
SGND
PGND
OUT
VC
R115 22k
C127 4n7
R116 22k
T106 BC857
R114 N.C
R111 22k
C131 1u
C132 100n
R110 22k
D110 LL4148
R109 1k
R113 10k
C128 4n7
C129 10n
C118 10u 35V
C119 100n
R121 2k2
C122 470
C123 220
R134 4k64
T103 BC638
D107 LL4148
DZ102 8V2
T104 2N5551
R129 1k
R133 4k7
R130 0R56
R131 0R56
R132 0R56
D108 BAV103
R125 100
R122 15k
D113 LL4148
L101 FJ0517
D124 RHRD460S
T112 BF423
C145 N.C
C147 100
R144 270
C146 100u 25V
R145 1R00
R146 1R00
R147 470
R148 1k
R149 154k
D125 BYV29-400
C148 100
R150 22
C149 2200u 35V
L104 FJ0448
F102 3.15A
D126 BYV28-100
C150 100
R151 22
C151 2200u 16V
L105 FJ0448
IC104 7805
C152 10u
C153 10u
7V
5V
C154 100
R152 22
-13_V
R153 0R56
D127 UF5404
L106 FJ0505
-13V
C155 2200u 25V
190V
T113 IRF820
R164 100
R165 10k
DZ103 C12
C162 4n7
D128 BAV21
D129 1N4007
IC106 7805
C158 10u
C159 10u
STBY_5V
15V
IC105 SI-3120F
C160 100u 25V
C161 100u 25V
12V
SUSPEND (2.5)
STBY_5V
(2.4.5)
UVLO
R163 10k
T118 BC847
T117 BC847
R162 10k
R161 1k
STBY_5V
R155 220
T115 BC557
R154 470
R156 470
R167 2k2
C156 100n
IC102 CNX82A
IC103 TL431
C157 2n2
R157 10k
R168 33k
R158 2k2
R160 10k
STBY_5V
R159 47k
RT101 10k
POWER ADJ
D130 LL4148
POWER_OFF (5)
T116 BC857

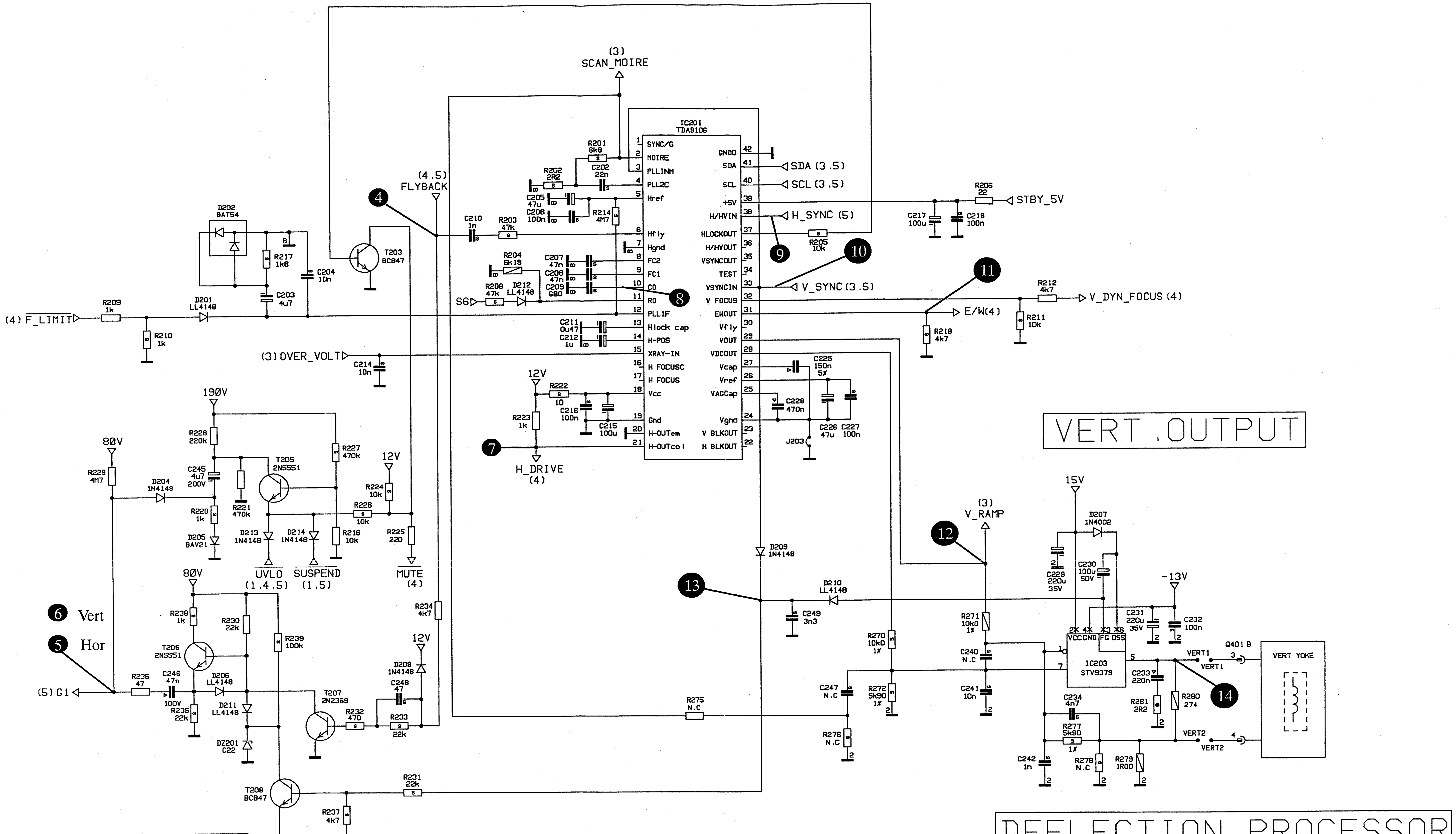
	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

POWER SUPPLY

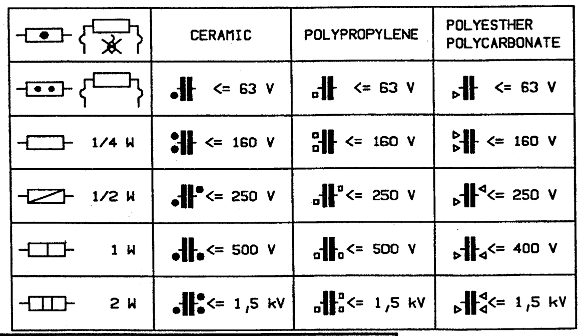
445Q	SMA228 .SMA233
445U	SMA226 .SMA227
445T	SMA224 .SMA225
446A	SMA217 .SMA221
DWG NO.	56015

SHEET 1 OF 5

ECN	ECN	ECN	ECN
445U15	445Q40	445T40	446A63


(3)
SCAN_MOIRE
IC201
TDA9106
SYNC/G
MOIRE
PLLINH
PLL2C
Href
Hfly
Hgnd
FC2
FC1
C0
R0
PLL1F
Hlock cap
H-POS
XRAY-IN
H FOCUSC
H FOCUS
Vcc
Gnd
H-OUTem
H-OUTcol
GNDD
SDA
SCL
+5V
H/HVIN
HLOCKOUT
H/HVOUT
VSYNCOUT
TEST
VSYNCIN
V FOCUS
EWOUT
Vfly
VOUT
VDCOUT
Vcap
Vref
VAGCap
Vgnd
V BLKOUT
H BLKOUT
SDA (3.5)
SCL (3.5)
STBY_5V
H_SYNC (5)
V_SYNC (3.5)
V_DYN_FOCUS (4)
E/W(4)
(4.5)
FLYBACK
(4) F_LIMIT
(3) OVER_VOLT
S6
12V
H_DRIVE
(4)
190V
80V
12V
UVLO
(1.4.5)
SUSPEND
(1.5)
MUTE
(4)
(5) G1
Vert
Hor
D202 BAT54
R217 1k8
C204 10n
C203 4u7
R209 1k
D201 LL4148
R210 1k
T203 BC847
R201 6k8
R202 2R2
C202 22n
C205 47u
C206 100n
R214 4M7
C210 1n
R203 47k
R204 6k19
C207 47n
C208 47n
C209 680
R208 47k
D212 LL4148
C211 0u47
C212 1u
C214 10n
R222 10
R223 1k
C216 100n
C215 100u
R206 22
C217 100u
C218 100n
R205 10k
R212 4k7
R211 10k
R218 4k7
C225 150n 5%
C228 470n
C226 47u
C227 100n
J203
R228 220k
C245 4u7 200V
R221 470k
T205 2N5551
R227 470k
R224 10k
R226 10k
R216 10k
R225 220
R229 4M7
D204 1N4148
R220 1k
D205 BAV21
D213 1N4148
D214 1N4148
R238 1k
R230 22k
R239 100k
T206 2N5551
R236 47
C246 47n 100V
R235 22k
D206 LL4148
D211 LL4148
DZ201 C22
T207 2N2369
R232 470
R233 22k
C248 47
D208 1N4148
R234 4k7
T208 BC847
R231 22k
R237 4k7
R275 N.C
D209 1N4148
D210 LL4148
C249 3n3
VERT.OUTPUT
(3)
V_RAMP
15V
D207 1N4002
C229 220u 35V
C230 100u 50V
-13V
C231 220u 35V
C232 100n
R271 10k0 1%
R270 10k0 1%
C240 N.C
C241 10n
R272 5k90 1%
C247 N.C
R276 N.C
IC203
STV9379
VCC GND FC OSS
C233 220n
R281 2R2
R280 274
C234 4n7
R277 5k90 1%
C242 1n
R278 N.C
R279 1R00
VERT1
VERT2
Q401 B
VERT YOKE
1
2
3
4
5
6
7
8
9
10
11
12
13
14

DEFLECTION PROCESSOR



	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

J202 J201

ECN	ECN	ECN	ECN
445U15	445Q40	445T40	446A63

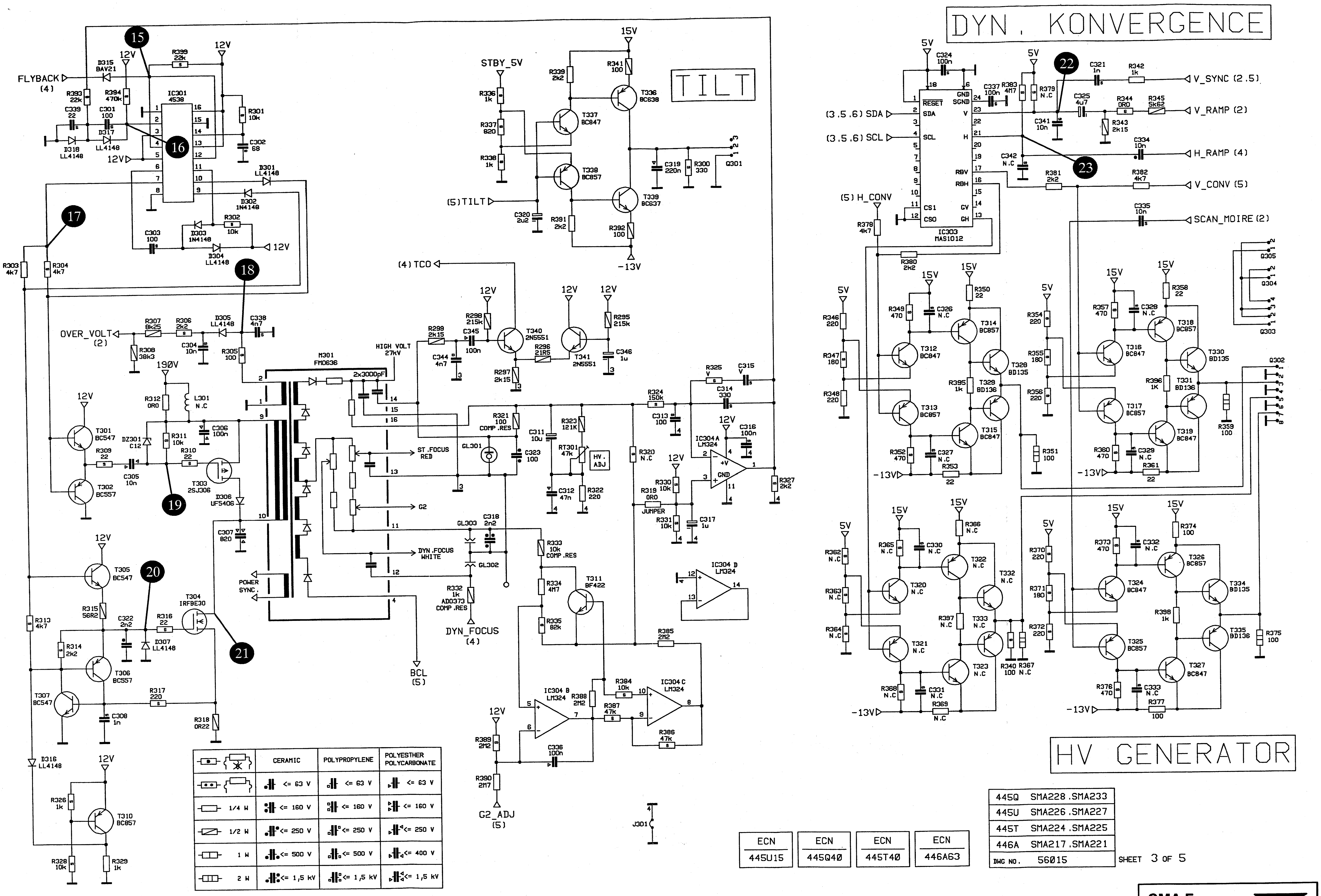
445Q	SMA228.SMA233
445U	SMA226.SMA227
445T	SMA224.SMA225
446A	SMA217.SMA221
DWG NO.	56015

SHEET 2 OF 5

DYN. KONVERGENCE

TILT

HV GENERATOR


FLYBACK (4)
OVER_VOLT (2)
IC301 4538
D315 BAV21
R399 22k
R393 22k
R394 470k
R301 10k
C339 22
C301 100
C302 68
D316 LL4148
D317 LL4148
D301 LL4148
D302 1N4148
D303 1N4148
D304 LL4148
R302 10k
C303 100
R303 4k7
R304 4k7
R307 8k25
R306 2k2
D305 LL4148
C338 4n7
R308 38k3
C304 10n
R305 100
190V
R312 0R0
L301 N.C
R311 10k
C306 100n
DZ301 C12
T301 BC547
T302 BC557
R309 22
C305 10n
R310 22
T303 2SJ306
D306 UF5406
C307 820
T305 BC547
R315 56R2
C322 2n2
R316 22
D307 LL4148
T304 IRFBE30
R314 2k2
T306 BC557
T307 BC547
R317 220
C308 1n
R318 0R22
R313 4k7
D316 LL4148
R326 1k
T310 BC857
R328 10k
R329 1k
12V
15V
-13V
5V
STBY_5V
R339 2k2
R341 100
T336 BC638
R336 1k
T337 BC847
R337 820
R338 1k
T338 BC857
C319 220n
R300 330
Q301
(5) TILT
C320 2u2
R391 2k2
T339 BC637
R392 100
(4) TCO
R298 215k
R299 2k15
C345 100n
T340 2N5551
R295 215k
T341 2N5551
R296 21R5
C344 4n7
R297 2k15
C346 1u
HIGH VOLT 27kV
M301 FM0636
2x3000pF
R321 100 COMP.RES
GL301
C311 10u
R323 121K
RT301 47k
HV. ADJ
C323 100
C312 47n
R322 220
ST.FOCUS RED
G2
DYN.FOCUS WHITE
POWER SYNC.
GL303
C318 2n2
GL302
R332 1k AD0373 COMP.RES
DYN_FOCUS (4)
BCL (5)
R325 V
C315 V
R324 150k
C314 330
C313 100
R320 N.C
IC304 A LM324
C316 100n
R327 2k2
R330 10k
R319 0R0 JUMPER
R331 10k
C317 1u
IC304 D LM324
R333 10k COMP.RES
R334 4M7
T311 BF422
R335 82k
R385 2M2
IC304 B LM324
R388 2M2
R384 10k
IC304 C LM324
R387 47k
R386 47k
R389 2M2
C336 100n
R390 2M7
G2_ADJ (5)
J301
C324 100n
IC303 MAS1012
RESET
GND
SGND
SDA
SCL
CS1
CS0
RBV
RBH
CV
CH
C337 100n
R383 4M7
R379 N.C
C321 1n
R342 1k
V_SYNC (2.5)
C325 4u7
R344 0R0
R345 5k62
V_RAMP (2)
C341 10n
R343 2k15
(3.5.6) SDA
(3.5.6) SCL
C334 10n
C342 N.C
H_RAMP (4)
R381 2k2
R382 4k7
V_CONV (5)
(5) H_CONV
C335 10n
SCAN_MOIRE (2)
R378 4k7
R380 2k2
Q305
Q304
Q303
Q302
R346 220
R347 180
R348 220
R349 470
C326 N.C
R350 22
T312 BC847
T314 BC857
T328 BD135
R395 1k
T329 BD136
T313 BC857
T315 BC847
R352 470
C327 N.C
R353 22
R351 100
R354 220
R355 180
R356 220
R357 470
C328 N.C
R358 22
T316 BC847
T318 BC857
T330 BD135
R396 1K
T331 BD136
R359 100
T317 BC857
T319 BC847
R360 470
C329 N.C
R361 22
R362 N.C
R363 N.C
R364 N.C
R365 N.C
C330 N.C
R366 N.C
T320 N.C
T322 N.C
T332 N.C
R397 N.C
T333 N.C
T321 N.C
T323 N.C
R368 N.C
C331 N.C
R369 N.C
R340 100
R367 N.C
R370 220
R371 180
R372 220
R373 470
C332 N.C
R374 100
T324 BC847
T326 BC857
T334 BD135
R398 1k
T335 BD136
R375 100
T325 BC857
T327 BC847
R376 470
C333 N.C
R377 100
15
16
17
18
19
20
21
22
23

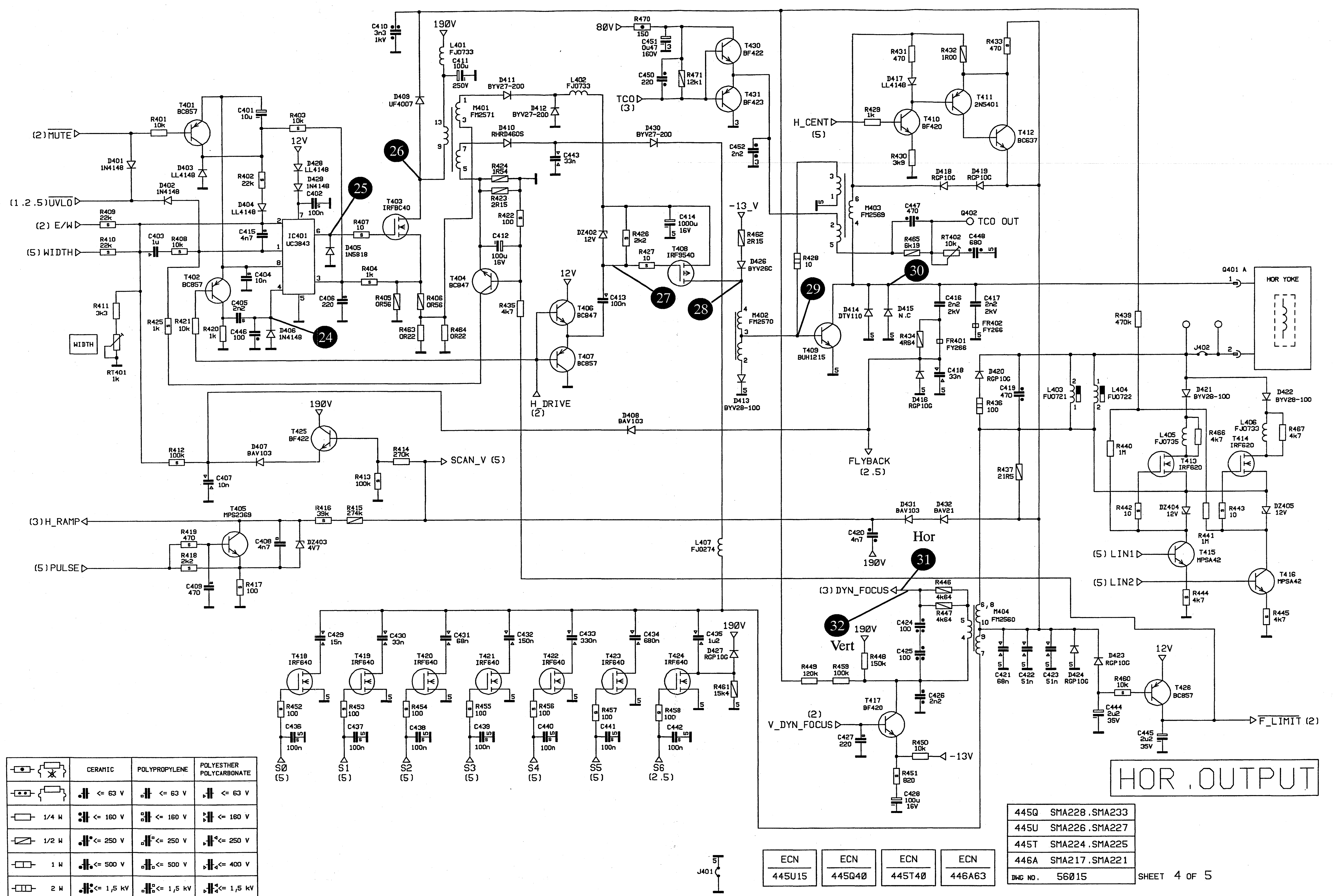
	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

ECN	ECN	ECN	ECN
445U15	445Q40	445T40	446A63

445Q	SMA228 .SMA233
445U	SMA226 .SMA227
445T	SMA224 .SMA225
446A	SMA217 .SMA221
DWG NO.	56015

SHEET 3 OF 5

445T


(2) MUTE
(1.2.5) UVLO
(2) E/W
(5) WIDTH
WIDTH
RT401 1k
R411 3k3
R401 10k
T401 BC857
D401 1N4148
D402 1N4148
D403 LL4148
D404 LL4148
R402 22k
C401 10u
R403 10k
12V
D428 LL4148
D429 1N4148
C402 100n
IC401 UC3843
C415 4n7
R409 22k
R410 22k
C403 1u
R408 10k
T402 BC857
C404 10n
C405 2n2
C446 100
D406 1N4148
R425 1k
R421 10k
R420 1k
D405 1N5818
R407 10
R404 1k
C406 220
R405 0R56
R406 0R56
R463 0R22
R464 0R22
T403 IRFBC40
T404 BC847
C410 3n3 1kV
190V
L401 FJ0733
C411 100u 250V
D409 UF4007
M401 FM2571
D411 BYV27-200
D412 BYV27-200
L402 FJ0733
D410 RHRD460S
C443 33n
R424 1R54
R423 2R15
R422 100
C412 100u 16V
R435 4k7
T406 BC847
T407 BC857
H_DRIVE (2)
80V
R470 150
C451 0u47 160V
C450 220
R471 12k1
T430 BF422
T431 BF423
TCO (3)
D430 BYV27-200
C452 2n2
DZ402 12V
R426 2k2
R427 10
C414 1000u 16V
T408 IRF9540
C413 100n
-13_V
R462 2R15
D426 BYV26C
M402 FM2570
D413 BYV28-100
H_CENT (5)
R431 470
R432 1R00
R433 470
D417 LL4148
R429 1k
T410 BF420
T411 2N5401
T412 BC637
R430 3k9
D418 RGP10G
D419 RGP10G
M403 FM2569
C447 470
Q402 TCO OUT
R465 6k19
RT402 10k
C448 680
R428 10
T409 BUH1215
D414 DTV110
D415 N.C
C416 2n2 2kV
C417 2n2 2kV
FR402 FY266
R434 4R64
FR401 FY266
D416 RGP10G
C418 33n
Q401 A
HOR YOKE
J402
R439 470k
D420 RGP10G
C419 470
R436 100
L403 FU0721
L404 FU0722
D421 BYV28-100
D422 BYV28-100
L405 FJ0735
R466 4k7
L406 FJ0733
R467 4k7
T413 IRF620
T414 IRF620
R440 1M
R437 21R5
FLYBACK (2.5)
D408 BAV103
190V
T425 BF422
R412 100k
D407 BAV103
C407 10n
R414 270k
SCAN_V (5)
R413 100k
(3) H_RAMP
T405 MPS2369
R416 39k
R415 274k
R419 470
R418 2k2
C408 4n7
DZ403 4V7
(5) PULSE
C409 470
R417 100
D431 BAV103
D432 BAV21
C420 4n7
Hor
R442 10
DZ404 12V
R443 10
DZ405 12V
R441 1M
(5) LIN1
T415 MPSA42
(5) LIN2
T416 MPSA42
R444 4k7
R445 4k7
L407 FJ0274
(3) DYN_FOCUS
R446 4k64
R447 4k64
M404 FM2560
C424 100
C425 100
C426 2n2
Vert
R448 150k
R449 120k
R459 100k
T417 BF420
(2) V_DYN_FOCUS
C427 220
R450 10k
-13V
R451 820
C428 100u 16V
C421 68n
C422 51n
C423 51n
D424 RGP10G
D423 RGP10G
12V
R460 10k
T426 BC857
C444 2u2 35V
C445 2u2 35V
F_LIMIT (2)
C429 15n
C430 33n
C431 68n
C432 150n
C433 330n
C434 680n
C435 1u2
D427 RGP10G
R461 15k4
T418 IRF640
T419 IRF640
T420 IRF640
T421 IRF640
T422 IRF640
T423 IRF640
T424 IRF640
R452 100
R453 100
R454 100
R455 100
R456 100
R457 100
R458 100
C436 100n
C437 100n
C438 100n
C439 100n
C440 100n
C441 100n
C442 100n
S0 (5)
S1 (5)
S2 (5)
S3 (5)
S4 (5)
S5 (5)
S6 (2.5)
J401
24
25
26
27
28
29
30
31
32

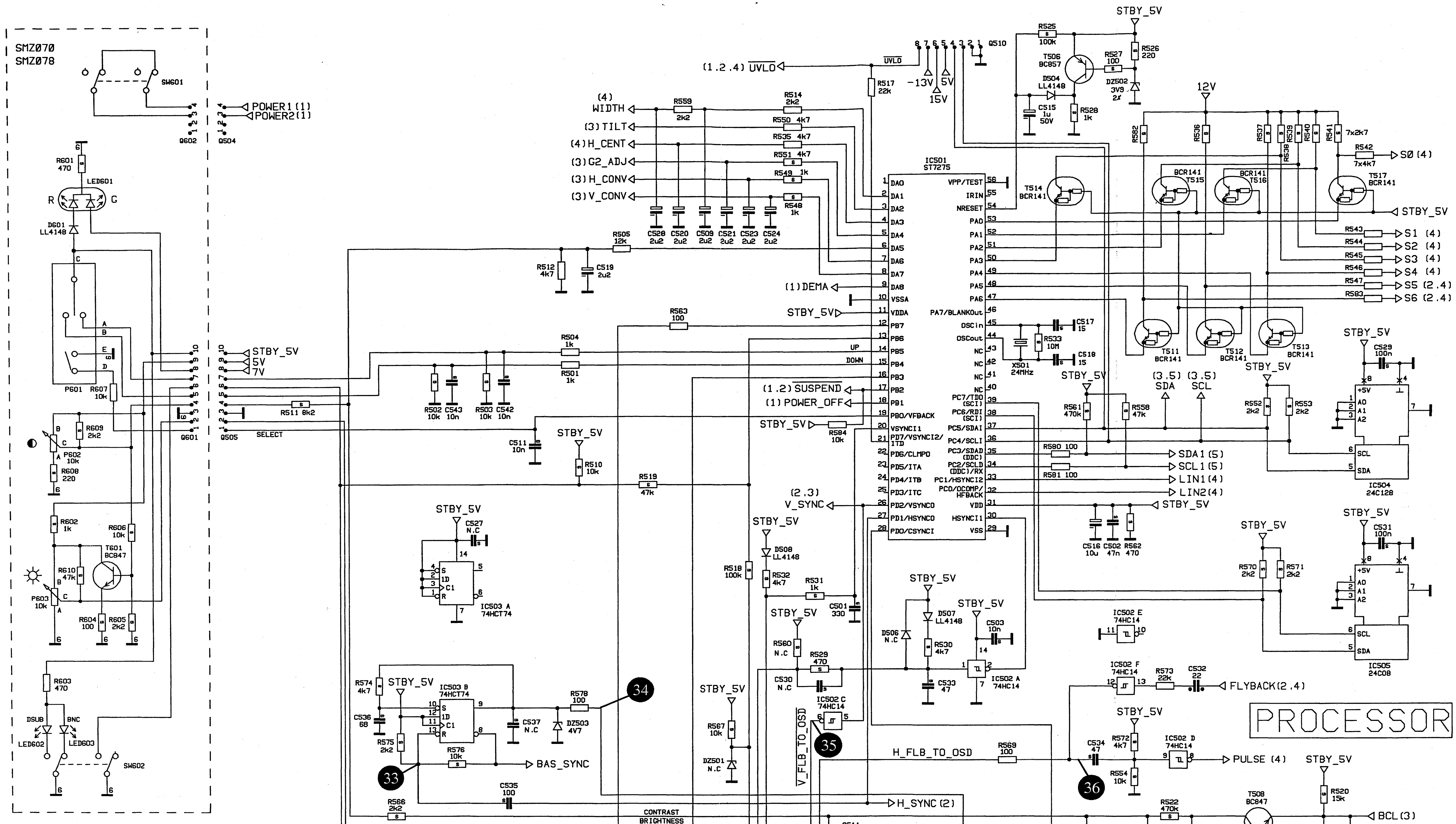
HOR.OUTPUT

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

ECN	ECN	ECN	ECN
445U15	445Q40	445T40	446A63

445Q	SMA228.SMA233
445U	SMA226.SMA227
445T	SMA224.SMA225
446A	SMA217.SMA221
DWG NO.	56015

SHEET 4 OF 5


SMZ070
SMZ078
SW601
POWER1(1)
POWER2(1)
Q602
Q504
R601 470
LED601
R
G
D601 LL4148
P601
R607 10k
STBY_5V
5V
7V
R511 8k2
Q601
Q505
SELECT
R609 2k2
P602 10k
R608 220
R602 1k
R606 10k
T601 BC847
R610 47k
P603 10k
R604 100
R605 2k2
R603 470
DSUB
BNC
LED602
LED603
SW602
(1.2.4) UVLO
UVLO
R517 22k
-13V
15V
5V
Q510
(4) WIDTH
(3) TILT
(4) H_CENT
(3) G2_ADJ
(3) H_CONV
(3) V_CONV
R559 2k2
R514 2k2
R550 4k7
R535 4k7
R551 4k7
R549 1k
R548 1k
C528 2u2
C520 2u2
C509 2u2
C521 2u2
C523 2u2
C524 2u2
R505 12k
R512 4k7
C519 2u2
(1) DEMA
STBY_5V
R563 100
R504 1k
R501 1k
UP
DOWN
R502 10k
C543 10n
R503 10k
C542 10n
(1.2) SUSPEND
(1) POWER_OFF
C511 10n
R510 10k
R584 10k
R519 47k
(2.3) V_SYNC
IC501 ST7275
DA0
DA1
DA2
DA3
DA4
DA5
DA6
DA7
DA8
VSSA
VDDA
PB7
PB6
PB5
PB4
PB3
PB2
PB1
PB0/VFBACK
VSYNCI1
PD7/VSYNCI2/ITD
PD6/CLMPO
PD5/ITA
PD4/ITB
PD3/ITC
PD2/VSYNCO
PD1/HSYNCO
PD0/CSYNCI
VPP/TEST
IRIN
NRESET
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7/BLANKOut
OSCin
OSCout
NC
PC7/TDO (SCI)
PC6/RDI (SCI)
PC5/SDAI
PC4/SCLI
PC3/SDAD (DDC)
PC2/SCLD (DDC)/RX
PC1/HSYNCI2
PC0/DCOMP/HFBACK
VDD
HSYNCI1
VSS
R525 100k
T506 BC857
D504 LL4148
C515 1u 50V
R528 1k
R527 100
DZ502 3V9 2%
R526 220
STBY_5V
12V
R582
R536
R537
R538
R539
R540
R541
7x2k7
R542 7x4k7
S0 (4)
T514 BCR141
BCR141 T515
BCR141 T516
T517 BCR141
R543
R544
R545
R546
R547
R583
S1 (4)
S2 (4)
S3 (4)
S4 (4)
S5 (2.4)
S6 (2.4)
C517 15
R533 10M
C518 15
X501 24MHz
T511 BCR141
T512 BCR141
T513 BCR141
(3.5) SDA
(3.5) SCL
R561 470k
R558 47k
R580 100
R581 100
SDA1 (5)
SCL1 (5)
LIN1 (4)
LIN2 (4)
C516 10u
C502 47n
R562 470
R552 2k2
R553 2k2
C529 100n
+5V
A0
A1
A2
SCL
SDA
IC504 24C128
C531 100n
R570 2k2
R571 2k2
IC505 24C08
C527 N.C
IC503 A 74HCT74
S
1D
C1
R
R518 100k
D508 LL4148
R532 4k7
R531 1k
C501 330
D507 LL4148
D506 N.C
R530 4k7
C503 10n
R560 N.C
R529 470
C530 N.C
C533 47
IC502 A 74HC14
IC502 E 74HC14
IC502 F 74HC14
R573 22k
C532 22
FLYBACK (2.4)
R574 4k7
C536 68
IC503 B 74HCT74
R575 2k2
R576 10k
C537 N.C
DZ503 4V7
R578 100
BAS_SYNC
C535 100
R566 2k2
34
33
35
36
R567 10k
DZ501 N.C
IC502 C 74HC14
V_FLB_TO_OSD
H_FLB_TO_OSD
R569 100
C534 47
R572 4k7
R554 10k
IC502 D 74HC14
PULSE (4)
H_SYNC (2)
CONTRAST
BRIGHTNESS
INPUT SELECT
Q511
R577 100
C538 N.C
IC502 B 74HC14
R522 470k
C553 10n
T509 BC857
C552 0u47
T508 BC847
R520 15k
R521 560
C551 220n
BCL (3)
USB MODULE
Q506
C506 220u
C507 220u
J501
J502
J503
Q507
Q508
Q509
COM_INTER
SDA (3.5)
SCL (3.5)
Q503
SDA1 (5)
SCL1 (5)
SELF TEST
H.SYNC
V.SYNC
SCL (3.5)
SDA (3.5)
G.SYNC
Q502
STBY_5V
190V
80V
12V
CLAMP
7V
G1 (2)
-13V
5V
Q501

PROCESSOR

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

ECN
445U15

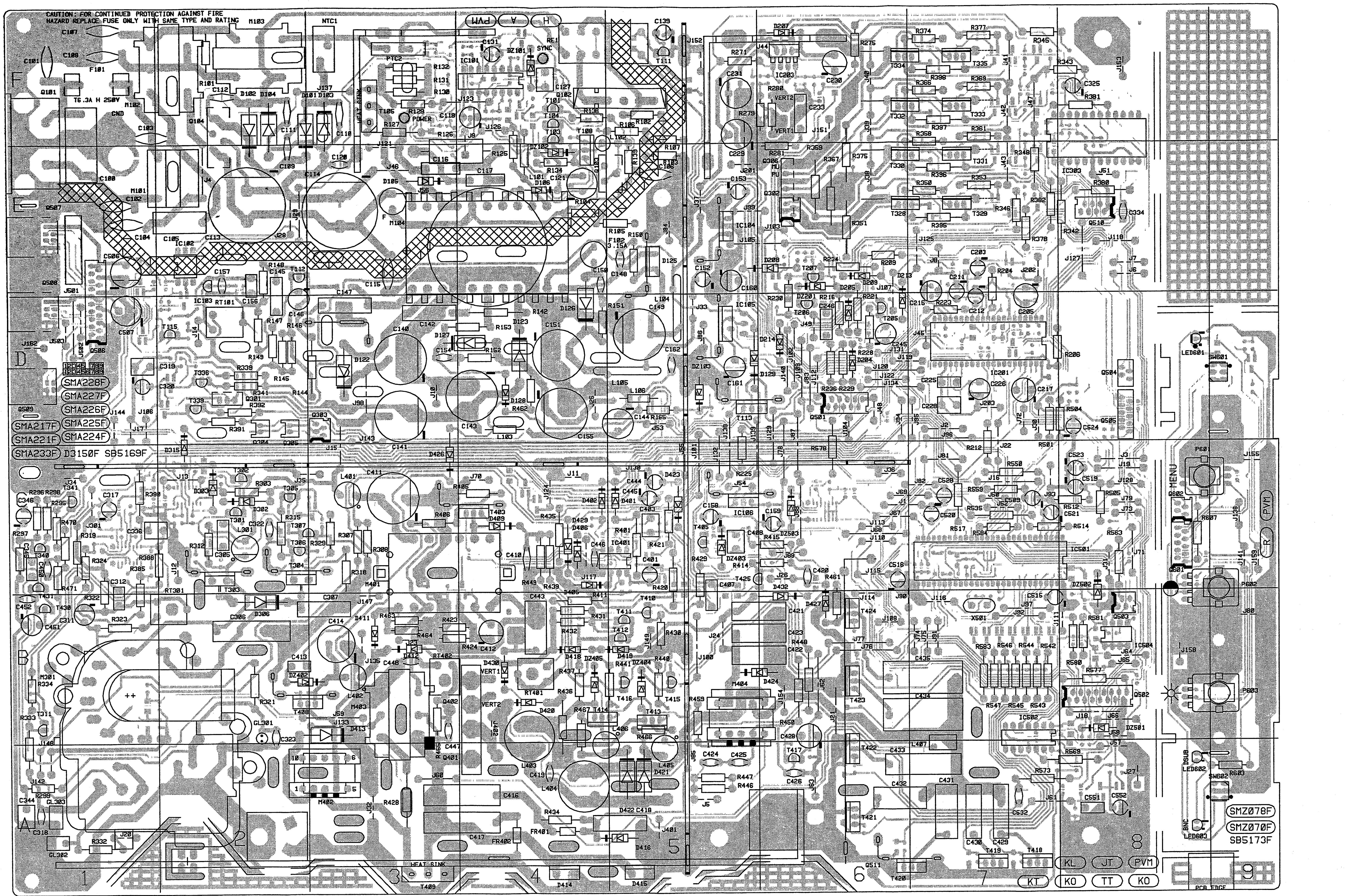
ECN
446A63

445U	SMA226 .SMA227		
445T	SMA224 .SMA225	445Q	SMA228 .SMA233
446A	SMA217 .SMA221		
DWG NO.	56015		

SHEET 5 OF 5

ECN
445Q40

ECN
445T40


CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE
HAZARD REPLACE FUSE ONLY WITH SAME TYPE AND RATING
T6.3A H 250V
F101
F102
3.15A
NTC1
PTC2
POWER
SYNC
PVM
A
H
SMA228F
SMA227F
SMA226F
SMA225F
SMA224F
SMA217F
SMA221F
SMA233F
D3150F
SB5169F
SMZ078F
SMZ070F
SB5173F
MENU
PVM
R
DSUB
BNC
HEAT SINK
PCB EDGE
KL
JT
PVM
KT
KO
TT
KO
F
E
D
C
B
A
1
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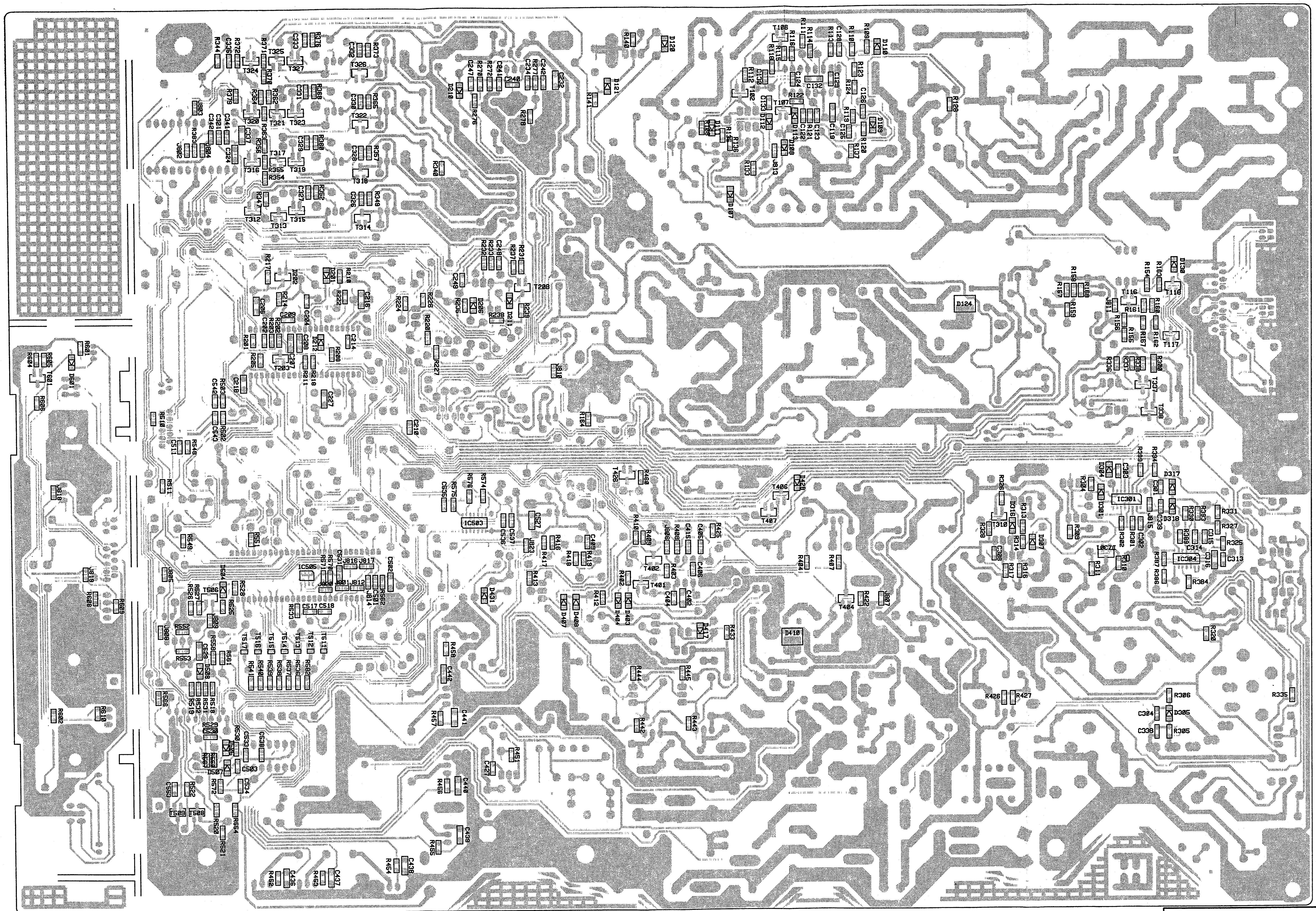

445T